WOOD TRUSSES

STRESS COEFFICIENTS
LENGTH COEFFICIENTS
&
ANGLES

NATIONAL LUMBER MANUFACTURERS ASSOCIATION
PUBLICATION
1937

For a truss within the limitations stated, the total stress in any member, the length of any member between joint centers, and the angle between any two members may readily be found from the tables of coefficients given herein. This information was prepared by Frank J. Hanrahan and Mary C. Ahern.

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GLOSSARY OF TERMS

The following terms are defined in the limited sense in which they are used in this publication:

"Panel point load" is the exterior load applied at any one joint of the top or bottom chord of a truss.

"Joint" is any point in a truss where two or more members meet.

"Panel length" is the distance between any two consecutive joint centers in either the top or bottom chords.

"Joint center" is the point of intersection of the center lines of all the members meeting at any one joint.

"Top chord" is the one or more members which form the upper boundary of the truss.

"Bottom chord" is the one or more members which form the lower boundary of the truss.

"Member" is the aggregate of one or more pieces of structural material which lie between any two adjacent joints of a truss.

"Chord member" is a member which forms part of either the top or bottom chords.

"Web member" is a member which lies between the top and bottom chords.

"Stress coefficient" is a numerical constant which, when multiplied by the panel point load, gives the total axial stress in a truss member.

"Length coefficient" is a numerical constant which, when multiplied by the height of truss, gives the length of a truss member between joint centers.

"Pitch" is the ratio of "height of truss" to "span length" $\frac{H}{L} = \frac{1}{N}$ when both are expressed in the same linear units.

"Height of truss" is the vertical distance at midspan from the joint center at the ridge of a pitched truss, or from the center line of the top chord of a flat truss, to the center line of the bottom chord.

"Span length" is the horizontal distance between the joint centers of the two joints located at the extreme ends of the truss.

LIMITATIONS

The stress coefficients in the tables are based on the assumptions that:

- All loads act vertically. Non-vertical loads must be converted to assumed vertical loads or the axial stress in the member caused by such loads must be found by other means.
- 2. Load is applied to the truss at panel points only. The axial stresses (but not the additional bending stresses) induced in the members by uniformly distributed inter-panel point loads may be found by converting such loads to panel point loads and using the stress coefficients given.
- The lengths of all panels comprising any one loaded chord are equal.
- 4. All panel point loads on any one chord are equal; with the exception that:
 - (a) For all except the top chord loadings of the Warren trusses, the panel point load at an end joint is one-half of that at an intermediate joint.
 - (b) For the top chord loadings of Warren trusses:
 - the panel point load of an end joint is onefourth, and at the joint next to the end is three-fourths of that at an intermediate joint, and
 - (2) the length of the end panel is one-half of that of an intermediate panel.

This represents the common loading when all vertical roof or ceiling loads are brought to the truss by means of purlins or beams located at panel points.

NOTATIONS

- H height of truss in feet or inches.
- span length of truss in feet or inches.
- η the ratio of "span length" to "height of truss" with height and span expressed in the same units; i.e., either feet or inches.
- N A frequently repeated combination of mathematical terms which, for convenience in computation, has been given a special notation. (It does not necessarily represent the same mathematical expression for the different types of trusses).
- P The panel point load applied at a joint of the top chord.
- p The panel point load applied at a joint of the bottom chord.
- Center line about which the truss is symmetrical.

 1 , 2 , 3 , etc. on the sketch, and 1, 2, 3, etc. under column heading "member" in the table, designate individual members of the truss.



USE OF TABLES

Stress coefficients, length coefficients, and angles of members, for any one type of truss with a given number of panels, are shown on the same sheet. Conversion tables which will assist in converting inches and fractions of an inch to decimals of a foot, and fractions of an inch to decimals of an inch, are given on the last page of this manual.

Values of n, P, and D

Select type of truss and ratio of "span length" to "height of truss", N. In subsequent computations, use coefficients and angles in the vertical columns under "value of N " chosen. If a "value of N ", other than those given on the table, is desired, compute the coefficients and angles from the "General Formulas" in the columns at the extreme right of the tables. Since the pitch of a true Belgian truss is fixed by the number of panels, only one "value of N " is possible for each Belgian truss.

Determine the top and bottom panel point loads P and ρ by standard principles of mechanics.

Stress Coefficients

To find the total axial tensile or compressive stress in any member when the truss is loaded at:

- 1. TOP Multiply P by the stress coefficient in the column under P.
- 2. BOTTOM Multiply ρ by the stress coefficient in the column under ρ .
- TOP AND BOTTOM Add stresses determined in 1 and 2 above.

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS.

Members in compression are designated by heavy lines on the sketch and by minus signs before the tabulated stress coefficients.

Length of Members

To find the length of any member between joint centers, multiply H, the height of the truss, by the length coefficient under H.

Angles Between Members

The angles in degrees between members for use in determining bolt and connector loads, can be taken directly from the table; e.g., 1 - 9 under column heading "Members" indicates that the angle is measured between member (1) and member (9) shown on the sketch.

Reactions

For each truss the gross reaction, i.e., the total vertical load which the wall or column supporting one end of the truss must carry, is shown on the sketch of the truss. If the rafters or ceiling joists rest directly on the wall, the loads used for determining the bearing areas at the ends of the truss should be modified accordingly.

Non-essential Truss Members

Members which are not essential for a complete truss, are shown on the sketches at the end of certain trusses by dotted lines. They are included to show possible variations in the shape of the truss.

In the Fink and Fan types of trusses, the vertical member at the center is not necessary for the stability of the truss, and therefore may be omitted if desired. In the larger spans it is oustomary to include this member to provide a center support for the central bottom chord member of the truss.

In the triangular Pratt and flat Howe trusses, the Vertical member at the center may be omitted if there is no bottom chord load.

ADDITIONAL INFORMATION

Further information pertinent for truss design may be obtained from the National Lumber Manufacturers Association, and from the Regional Lumber Manufacturers Associations.

REFERENCES

"Wood Structural Design Data", National Lumber Manufacturers Association.

"Working Stresses for Structural Lumber," National Lumber Manufacturers Association

"Bolted Wood Joints - Safe Loads on Common Bolts", National Lumber Manufacturers Association.

"Maximum Spans for Joista and Rafters", National Lumber Manufacturers Association

"Wood Columns - Safe Loads", National Lumber Manufacturers Association

"Lumber Grade-Use Guide", National Lumber Manufacturers Association.

"Manual of Timber Connector Construction", Timber Engineering Company, Washington, D.C.

"Wood Handbook", (Forest Products Laboratory), U.S. Dept. of Agriculture.

"Wood Construction", by National Committee on Wood Utilization, McGraw-Hill Book Company.

"Wood Construction", by Voss and Varney, John Wiley. & Sons.

"Timber Design and Construction", by Jacoby and Davis, John Wiley & Sons.

"Architects' and Builders' Handbook" by Kidder and Parker, John Wiley & Sons.

"Building Code", recommended by the National Board of Fire Underwriters.

"Uniform Building Code", recommended by the Pacific Coast Building Officials Conference.

"Douglas Fir Use Book - Structural Data and Design Tables", West Coast Lumbermen's Association.

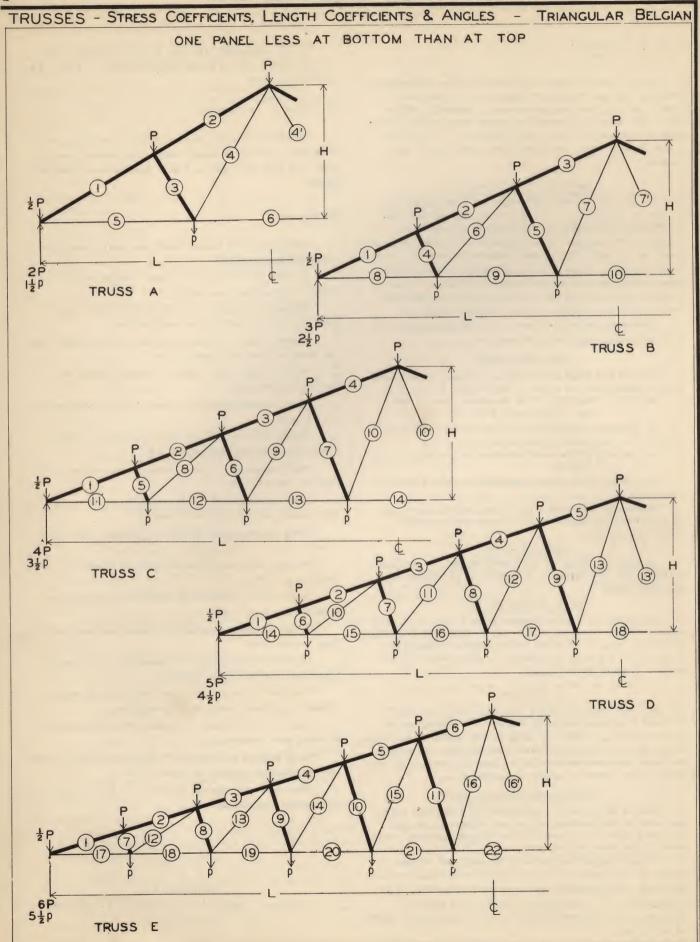
"Southern Pine Manual of Standard Wood Construction", Southern Pine Association.

"Wood Bridges and Trestles", Reports of Committee VII, American Railway Engineering Association.

"Structural Members and Connections" by Hool & Kinne, McGraw-Hill Book Company.

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WASHINGTON, D.C.



TRUSS E

TRUSSES - STRESS COEFFICIENTS, LENGTH COEFFICIENTS, & ANGLES - TRIANGULAR BELGIAN

ONE PANEL LESS AT BOTTOM THAN AT TOP

TRUSS C

To find the stress in any member when the truss is loaded at:

1. TOP - multiply the panel point load P by the stress coefficient under P.

 BOTTOM - multiply the panel point load ρ by the stress coefficient under ρ.

TRUSS A

3. TOP & BOTTOM - add stresses determined in 1 and 2 above.

TRUSS B

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS.

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

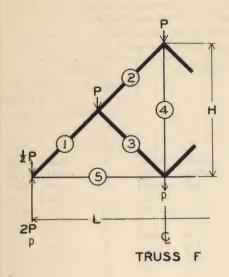
To find the length of any member, multiply the height of truss H by the length coefficient under H.

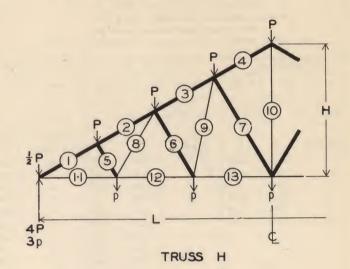
TRUSS D

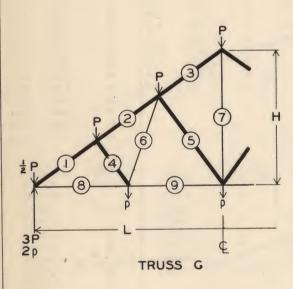
Piton =	H/L = 1	L/6 √3	Pitch = H	I/L = 1	/10 √5	Pitch = H/1	L = 1/1	4 /7	Pitch =	H/L =	1/6	Pitch = H/	L = 1/2	22 √11
n = L/H =	2 \sqrt{3} =	3.4642	n = L/H =	2 $\sqrt{5}$ =	4.4722	n = L/H = :	2√7 =	5.2915	1	L/H =		n = L/H =		
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			-			STRESS C	OFFFI	CIENTS				1		
MEMBER	P	р	MEMBER	P	р	MEMBER	P	D	MEMBER	Р	D	MEMBER	P	р
1	-3,00	-2.00	1	-6,12	-4.90	1	-9.90	-8.48	1	-14.25	-12.65	1	-19.05	-17,32
2 8	-2.50	-2.00	2	-5.72	-4.90	2	-9.55	-8.48	2	-13.91	-12.65	2	-18.76	-17.32
4	0.87	1.15	3 4	-4.29 -0.91	-3.67	3 4	-7.95	-7.07	3	-12.17	-11.07	3	-16.89	-15.59
5	2,60	1.73	5	-1.37	-0.55	5	-6.36 -0.94	-5.66	5	-10.44 - 8.70	- 9.49 - 7.91	5	-15.01	-13.86
6	1.73	1.15	6	1.12	1.34	6	-1.40	-0.53	6	- 0.95	0	6	-13.13	-12.12
			7	1.37	1.64	7	-1.87	-1.07	7	- 1.42	- 0.53	7	- 0.96	0
			8	5.59	4.47	. 8	1.32	1.51	8	- 1.90	- 1.05	8	- 1.44	- 0.52
			9	4.47	3.58	9	1.55	1.77	9	- 2.37	- 1.58	9	- 1.91	- 1.04
			10	3.35	2.68	10	9.26	7.94	10	1.50	1.67	10	- 2.39	- 1.57
						12	7.94	6.80	11 12	2.01	1.90	11	- 2.87	- 2.09
					1	13	6,61	5,67	13	2.37	2,64	12	1.66	1.81
						14	5.29	4.54	14	13.50	12.00	14	2.14	2.34
									15	12.00	10.67	15	2.49	2.71
									16	10.50	9.33	16	2.87	3.13
									17	9,00	8.00	17	18.24	16.58
	1								10	7.50	6.67	18	16.58	15.08
												20	13.27	13.57
												21	11.61	10.55
												22	9.95	9.05
						LENGTH CO	DEFFIC	IENTS						
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1, 2		00000	1, 2, 3,		816497	1, 2, 3, 4		07107	1,2,3,4,5,8,		32456	1,2,3,4,5,6	0.57	7350
4, 5, 6		77350	5		730296	5		67261	6		10819	7		4078
-, -, -		02102	7		95445	7		01784	7	-	21637	8	-	8155
			8, 9, 10		394427	8,11,12,13,14		55929	9		45274	9		2233
						9		36405	12		94427	11		6311 0388
						10	1.06	9044	13		54092	12, 17, 18, 19, 20, 21, 22	0.60	
									10, 14, 15, 16, 17	0.6	66667	13, 20, 21, 22	0.67	
									18			14	0.77	
												15	0.90	
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2		50	1-8, 2-6		24	1-11, 2-8		21	1-14, 2-10)	18	1-17, 2-12		17
1-5, 2-4					42	3- 9					34	3-13		31
	4-4	60	3-7		46	0- 5		37	3-11		0.8			42
3-4, 3-5, 4-6,		60 90	4-6, 4-8, 5	-6,	66					-12		4-14		200
			4-6, 4-8, 5 5-9, 7-10		66	4-10	-8.	49	4-12, 8-12, 8	-12	45	4-14		
3-4, 3-5, 4-6,			4-6, 4-8, 5				-8,		4-12, 8-12, 9 5-13			4-14 5-15	+	50
3-4, 3-5, 4-6,			4-6, 4-8, 5 5-9, 7-10	-7	66	4-10 5-8, 5-11, 6		49	4-12, 8-12, 9 5-13		45			50 56
3-4, 3-5, 4-6,			4-6, 4-8, 6 5-9, 7-10 5-7, 6-9, 7	-7	66	4-10 5-8, 5-11, 6 6-12, 7-13 6- 9, 7- 9		49 69 53	4-12, 8-12, 8 5-13 6-10, 6-14, 7 7-15, 8-16, 9	-10,	45 53 72	5 –1 5	,,,	56
-4, 3-5, 4-6,			4-6, 4-8, 6 5-9, 7-10 5-7, 6-9, 7	-7	66	4-10 5-8, 5-11, 6 6-12, 7-13 6- 9, 7- 9 7-10		49 69	4-12, 8-12, 9 5-13	-10,	45	5-15	-19, -22,	
-4, 3-5, 4-6,			4-6, 4-8, 6 5-9, 7-10 5-7, 6-9, 7	-7	66	4-10 5-8, 5-11, 6 6-12, 7-13 6- 9, 7- 9		49 69 53	4-12, 8-12, 8 5-13 6-10, 6-14, 7 7-15, 8-16, 9	-10,	45 53 72	5 –1 5		56
3-4, 3-5, 4-6,			4-6, 4-8, 6 5-9, 7-10 5-7, 6-9, 7	-7	66	4-10 5-8, 5-11, 6 6-12, 7-13 6- 9, 7- 9 7-10		49 69 53 41	4-12, 8-12, 8 5-13 6-10, 6-14, 7 7-15, 8-16, 9 7-11, 8-11	-10,	45 53 72 56	5-15 6-16 7-12, 7-17 8-12, 8-18, 9 10-20, 11-21, 16	-20	56 75
-4, 3-5, 4-6,			4-6, 4-8, 6 5-9, 7-10 5-7, 6-9, 7	-7	66	4-10 5-8, 5-11, 6 6-12, 7-13 6- 9, 7- 9 7-10 8-12		49 69 53 41 42	4-12, 8-12, 8 5-13 6-10, 6-14, 7 7-15, 8-16, 9 7-11, 8-11 9-13	-10,	45 53 72 56 37	5-15 6-16 7-12, 7-17 8-12, 8-18, 9 10-20,11-21,16 8-13, 9-13,14	-20	56 75 59
3-4, 3-5, 4-6,			4-6, 4-8, 6 5-9, 7-10 5-7, 6-9, 7	-7	66	4-10 5-8, 5-11, 6 6-12, 7-13 6- 9, 7- 9 7-10 8-12 9-13		49 69 53 41 42 58	4-12, 8-12, 8 5-13 6-10, 6-14, 7 7-15, 8-16, 9 7-11, 8-11 9-13 10-15	-10,	45 63 72 56 37 36	6-15 6-16 7-12, 7-17 8-12, 8-18, 9 10-20,11-21,16 8-13, 9-13,14 9-14,10-14,13	-20	56 73 59
3-4, 3-5, 4-6,			4-6, 4-8, 6 5-9, 7-10 5-7, 6-9, 7	-7	66	4-10 5-8, 5-11, 6 6-12, 7-13 6- 9, 7- 9 7-10 8-12 9-13 10-14		49 69 53 41 42 58 70	4-12, 8-12, 8 5-13 6-10, 6-14, 7 7-15, 8-16, 9 7-11, 8-11 9-13 10-15	-10,	45 63 72 66 37 36 52	5-15 6-16 7-12, 7-17 8-12, 8-18, 9 10-20,11-21,16 8-13, 9-13,14 9-14,10-14,13 10-15,11-15	-20	56 75 59 48 40
3-4, 3-5, 4-6,			4-6, 4-8, 6 5-9, 7-10 5-7, 6-9, 7	-7	66	4-10 5-8, 5-11, 6 6-12, 7-13 6- 9, 7- 9 7-10 8-12 9-13 10-14		49 69 53 41 42 58 70	4-12, 8-12, 8 5-13 6-10, 6-14, 7 7-15, 8-16, 9 7-11, 8-11 9-13 10-15 11-16	-10,	45 55 72 56 37 36 52 63	5-15 6-16 7-12, 7-17 8-12, 8-18, 9 10-20, 11-21, 16 8-13, 9-13, 14 9-14, 10-14, 13 10-15, 11-15 11-16, 12-18, 16	-20 -19	56 73 59 48 40 34

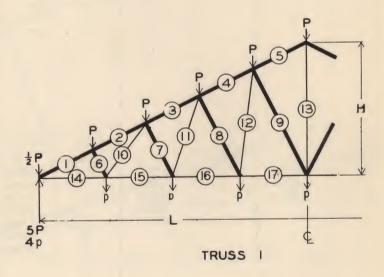
TRUSSES - STRESS COEFFICIENTS, LENGTH COEFFICIENTS, & ANGLES - TRIANGULAR BELGIAN

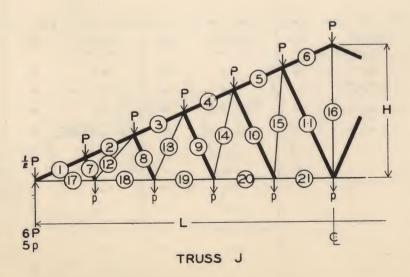
TWO PANELS LESS AT BOTTOM THAN AT TOP











TRUSSES - STRESS COEFFICIENTS, LENGTH COEFFICIENTS, & ANGLES TRIANGULAR BELGIAN

TWO PANELS LESS AT BOTTOM THAN AT TOP

To find the stress in any member when the truss is loaded at:

1. TOP - multiply the panel point load P by

the stress coefficient under P.

2. BOTTOM - multiply the panel point load P by

the stress coefficient under p

3. TOP & BOTTOM - add stresses determined in 1 and

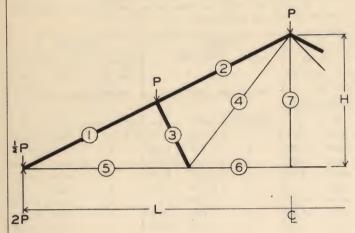
ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS.

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

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TRU	ISS F	•	TRU	ISS (G	TRU	JSS	H.	TR	USS	ı	TF	RUSS	J
Pitch	= H/L =	1/2	Pitch = H/	L = 1/4	1 √2	Pitch = H/	L = 1/6	3 √3	Pitch =	H/L = 1/	4	Pitch =		
	= L/H =		n = L/H = :			n = L/H =			n = 1	L/H = 4		n = L/H	= 2 √5	= 4.4722
Roof	Slope =	= 45°	Roof Slo	pe = 35 ⁰	16'		lope = 3	30°	Roof Slop	e = 26°	341	Roof S1	ope = 2	40 071
	0						COEFF	CIENT	S					
MEMBER	P	p	MEMBER	Р	Р	MEMBER	Р	P	MEMBER	P	p	MEMBER	P	P
2	-2.12 -1.41	-0.71 -0.71	1 2	-4.33 -3.75	-2.60 -2.60	1 2	-7.00 -6.50	-5.00 -5.00		-10.06	-7.85		-13.47	
3	-0.71	0	3	-2.60	-1.73	3	-5.25	-4.00	3	- 9.62 - 8.27	-7.83 -6.71	2 3	-13.06	-11.02
4	1.00	1.00	4	-0.82	0	4	-4.00	-5.00	4	- 6.93	-5.59	4	-10-21	- 8.57
5	1.50	0.50	5	-1.22	-0.61	5	-0.87	0	5	- 5.59	-4.47	5	- 8.78	- 7.35
			6	2.00	2.00	6 7	-1.30 -1.73	-0.57 -1.15	6 7	- 0.89	0	6	- 7.35	- 6.12
			8	3.54	2.12	8	0.87	1.15	8	- 1.34 - 1.79	-0 _e 56	7 8	- 0.91 - 1.37	- 0.55
			9	2.83	1.77	9	1.15	1.55	9	- 2.24	-1.68	9	1.85	- 1.10
						10	3.00	3,00	10	1.00	1.25	10	- 2.28	- 1.64
						11	6.06	4.33	11	1.26	1.58	n	- 2.74	- 2.19
						15	5.20 4.33	3.75	12	1.61	2.02	12	1.12	1.84
									14	9.00	7.00	14	1.37	2.05
								,	15	8.00	6.25	15	2.09	2.51
									16 17	7.00 6.00	5.50	16	5.00	5,00
										0,00	4.75	18	12.80	9,17
												19	10.06	8.27
												20	8.94	7.88
						LENGTH (COEFFI	CIENTS				21	7.83	6.48
MEMBER		Н	MEMBER		н	MEMBER	J	H		1	1			
1, 2, 3		07107	1, 2, 3	0.5	577344	1, 2, 3, 4	0.1	500000	MEMBER	_	1	MEMBER	-	Н
4, 5		00000	4		108248	5		88675	1,2,3,4,5,7		7214 3607	1,2,3,4,5,6		182574
			5	0.0	316497	6,8,11,12,13	0.1	77350	8		0820	8		65149
			6, 8, 9		707107	7		866025	9	0.89		9, 13	0.8	47723
		1	7	1.00	000000	9		765,765	10,14,15,16,17		0000 2456	10		730297
									12	0.80		12, 17, 18,		12871
									13	1.00		19, 20, 21		83130
					_							1.6	0.8	36660
ANGL	FS (I	N DEG	RFFS) BET	WEEN	MEMBE	RS FOR US	- IN	DETER	RMINING BO	1 T AN	2 00	16		00000
MEMBER		DEG.	MEMBER		DEG.	MEMBER						NNECTOR		
1-5, 2-4		45	1-8, 2-6, 5-		35	1-11, 2-8, 7		0EG.	MEMBER		EG	MEMBER		DEG
3-4, 3-5		90	3-7, 4-6, 4-		56		20		1-14, 2-10, 9		27	1-17, 2-12,	11-10	24
5-0, 5-0			5-6, 5-9			3-9 4-10, 5-8, 5-	-11.	49	3-11, 7-11, 8	-11	4.5	3-13		42
			6-9		70	6-12, 7-13,8-		60	4-12		56	4-14		58
			1-4, 2-4, 3-	Б	90	6-9, 7-9		41	5-13, 6-10, 6 7-10, 7-15, 8-16, 9	-14, -17	63	5-15		61
						9-13		79	8-12, 9-12		84	6-16, 7-12, 8-12, 8-18, 10-20,11-21, 1	7-17, 9-19,	66
						1-5,2-5,3-6,4	-7	90	10-15		54	8-13, 9-13, 1		48
									11-16		72	9-14, 10-1	14	87
									12-17		83	10-15, 11-1	.5	29
									1-6, 2-6, 3-4-8, 5-9	-7,	90	14-20		77
												15-21		85
												1-7, 2- 7, 3 4-9, 5-10, 6		90

TRUSSES TRIANGULAR FINK STRESS COEFFICIENTS, LENGTH COEFFICIENTS, & ANGLES' -

4 PANELS AT TOP



PITCH =
$$\frac{H}{L} = \frac{I}{n}$$

 $n = \frac{L}{H}$

To find the stress in any member when the truss is loaded at:

1. TOP - multiply the panel point load P by the stress coefficient under P

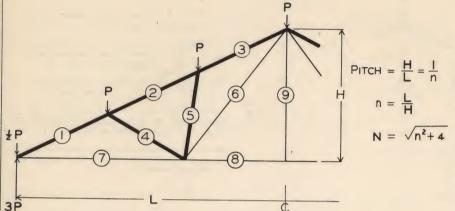
ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

 $N = \sqrt{n^2 + 4}$ Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

				VALUES	OF n	V		GENERAL FORMULAS
MEMBER	2	3	.5√3	4	5	6	7	32.72.77
				STRESS CO	DEFFICIENT	s		
	P	Р	Р	Р	Р	Р	P	Р
1	-2.12	-2.70	-3.00	-3,35	-4.04	-4.74	-5.46	- 3/4 N
2	-1.41	-2.15	-2.50	-2.91	-3.67	-4.43	-5.19	$= 1/N (3/4 n^2 + 1)$
3	-0.71	-0.83	-0.87	-0.89	-0.93	-0.95	-0.96	- n/N
4	0,60	0.75	0.87	1,00	1.25	1,50	1.75	1/4 n
5	1,50	2.25	2,60	3,00	3.75	4.50	5.25	3/4 n
6	1.00	1,50	1.73	2.00	2.50	3,00	3,60	1/2 n
7	0	0	0	0	0	0	0	0
			ı	ENGTH CO	DEFFICIENT	S		
	Н	Н	Н	Н	Н	Н	Н	Н
1, 2	0.707107	0.901388	1,000000	1.118034	1.346291	1,581139	1.820027	1/4 N
3	0.707107	0,600925	0.577367	0.559017	0.538516	0.527046	0.520008	1/2 N/n
4, 5	1,000000	1.083333	1.154734	1.250000	1.450000	1.666667	1.892857	1/4 N ² /n
6	0.000000	0.416667	0.577250	0.750000	1,050000	1,335333	1.607145	1/4 (n - 4/n)
7	1,000000	1,000000	1,000000	1.000000	1,000000	1,000000	1,000000	1
ANGLES	(IN DEGREE	S) BETWE	EN MEMBER	RS FOR USE	IN DETE	RMINING B	OLT AND	CONNECTOR LOADS
1-5, 2-4	45	34	30	27	22	18	16	2/n = tan a
4-6	90	68	60	54	44	36	32	2 a
3-4, 3-5	45	56	60	63	68	72	74	70 - a
4-7	0	22	30	36	46	54	58	90 - 2a.
1-3, 2-3, 6-7	90	90	90	90	90	90	90	90

TRUSSES - STRESS COEFFICIENTS, LENGTH COEFFICIENTS, & ANGLES - TRIANGULAR

6 PANELS AT TOP



To find the stress in any member when the truss is loaded at:

1. TOP - mulciply the panel point load P by the stress coefficient under P

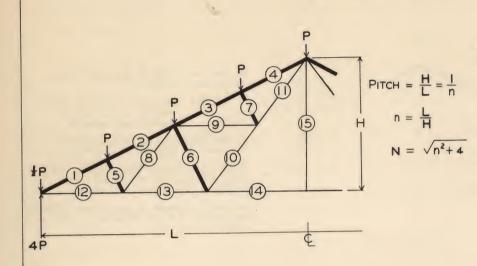
ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER			_	VALUES	OF n			05115541 555444
	2	3	2√3	4	5	6	7	GENERAL FORMULAS
				STRESS C	OEFFICIEN	TS		
	P	Р	Р	P	P	P	Р	Р
1	-3.54	-4.51	-5.00	-5.59	-6.73	-7.91	-9.10	- 5/4 N
2	-2.59	-3.54	-4.00	-4.55	-5.59	-6.64	-7.70	$- \frac{15 \text{ N}^2 - 16}{12 \text{ N}}$
3	-2.12	-3,40	-4.00	-4.70	-5,99	-7.27	-8.55	$= \frac{5 n^2 + 4}{4 N}$
4	-0.75	-0.93	-1.00	-1.07	-1.21	-1.34	-1.48	$\frac{n\sqrt{n^2+36}}{6 N}$
5	-0.75	-0.93	-1.00	-1.07	-1.21	-1.34	-1.48	$= \frac{n\sqrt{n^2+36}}{6 N}$
6	1.00	1.50	1.73	2.00	2.50	3,00	3,50	1/2 n
7	2.50	3.75	4.33	5,00	6.25	7.50	8.75	5/4 n
8	1.50	2,25	2,60	3,00	3.75	4.50	5,25	3/4 n
9	0	0	0	0	0	0	0	0
				LENGTH C	OEFFICIENT	s		
	Н	Н	Н	Н	Н	Н	Н	Н
1, 2, 3	0,471405	0.600925	0,666667	0.745356	0.897527	1.054093	1.215352	1/6 N
4, 5	0.745356	0.671855	0.666686	0.671855	0.700991	0.745356	0.799039	$1/12 \sqrt{\frac{\sqrt{n^2+36}}{n}}$
6, 7	1,000000	1.083333	1.154734	1.250000	1.450000	1.666667	1.892857	1/4 N ² /n
8	0.000000	0.416667	0.577250	0.750000	1.050000	1.333533	1,607150	1/4 (n - 4/n)
9	1,000000	1,000000	1,000000	1,000000	1,000000	1,000000	1,000000	1
ANGLES	(IN DEGRE	ES) BETWE	EN MEMBE	RS FOR US	E IN DET	ERMINING E	OLT AND	CONNECTOR LOADS
1-7, 3-6	45	34	30	27	22	18	16	$2/n = \tan a$
2-4, 2-5	72	63	60	56	50	45	41	6/n = tan b
6-8	90	68	60	54	44	36	32	2.
6-9	0	22	30	36	46	54	58	90 - 2a.
4-7, 5-6	27	29	30	29	28	27	25	b - a
1-4, 3-5	108	117	120	124	150	135	159	180 - b
4-5	36	54	60	68	80	90	98	180 = 2b
8-9	90	90	90	90	90	90	90	90

TRUSSES - STRESS COEFFICIENTS, LENGTH COEFFICIENTS, & ANGLES - TRIANGULAR FINK

8 PANELS AT TOP



To find the stress in any member when the truss is loaded at:

1. TOP - multiply the panel point load P by the stress coefficient under P

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER				VALUES	OF n			GENERAL FORMULAS
WEMBER	2	3	2√3	4	5	6	7	
		2	9	TRESS CO	EFFICIENT			
	Р	P	Р	Р	Р	Р	Р	P
1	-4.95	-6.31	-7,00	-7.83	-9.42	-11.07	-12.74	- 7/4 N
2	-4.24	-5.76	-6.50	-7,38	-9.05	-10.75	-12.47	-(7/4 N - 2/N)
3	-3.54	-5.20	-6,00	-6.93	-8.68	-10.43	-12.19	-(7/4 N - 4/N)
4	-2.83	-4.65	-5.50	-6.48	-8.51	-10,12	-11.92	= (7/4 N - 6/N)
5	-0.71	-0.83	-0.87	-0.89	-0.93	- 0.95	- 0,96	- n/N
6	-1.41	-1.66	-1.73	-1.79	-1.86	- 1,90	- 1.92	- 2 n/N
7	-0.71	-0.83	-0.87	-0.89	-0.93	- 0.95	- 0,96	- n/N
8	0.50	0.75	0.87	1.00	1.25	1,50	1.75	1/4 n
9	0.50	0.75	0.87	1.00	1.25	1,50	1.75	1/4 n
10	1,00	1.50	1.73	2.00	2.50	3,00	3,50	1/2 n
. 11	1.50	2.25	2,60	3.00	3.75	4.50	5,25	3/4 n
12	3,50	5.25	6.06	7.00	8.75	10,50	12,25	7/4 n
18	3,00	4,50	5.20	6.00	7.50	9.00	10,50	3/2 n
14	2,00	3.00	3.46	4.00	5.00	6.00	7,00	n
15	,0	0	0	0	0	0	0	0
				ENGTH CO	DEFFICIENT	S	-	
	Н	Н	Н	Н	Н	Н	Н	Н
1, 2, 3, 4	0.353553	0.450694	0.500000	0.559017	0.678146	0.790569	0.910014	1/8 N
	0.555555	0.300463	0.288684	0.279509	0.269258	0.263523	0.260004	1/4 N/n
5, 7 6	0.707107	0,600925	0.577367	0.559017	0.538516	0.527046	0.520008	1/2 N/n
8, 9, 10, 11,		0.541667	0,577367	0.625000	0,725000	0.833333	0,946429	1/8 H ² /n
12, 18	0,500000	0.416667	0.577250	0.750000	1,050000	1,333533	1,607150	1/4 (n = 4/n)
14	0,000000	1	1.000000	1,000000	1,000000	1,000000	1,000000	1
15	1.000000	1,000000	EN MEMBE				BOLT AND	CONNECTOR LOADS
ANGLES	(IN DEGREE		SO MENIBE	27	22	18	16	2/n = tan a
1-12,2-8,3-9,4-11	45	34	60	65	68	72	74	90 - &
-10,6-18,7-9,7-11	4.5	56		54	44	36	82	2a.
8-18, 9-10, 10-14	90	68	60			54	58	90 - 2a
11-15	0	22	80	36	46		90	90
1-5, 2-5, 3-7,	90	90	90	90	90	90	80	•

WOOD STRUCTURAL DESIGN DATA TRUSSES - STRESS COEFFICIENTS, LENGTH COEFFICIENTS. 8 ANGLES TRIANGULAR FAN 10 PANELS AT TOP To find the stress in any member when the truss is loaded at: 1. TOP - multiply the panel point load P by the stress coefficient under P PITCH = ALL MEMBERS WHICH ARE IN COMPRESSION n = H MUST BE DESIGNED AS COLUMNS Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients. To find the length of any member, multiply the height of truss H by the length coefficient under H. 16 ¢ 5P VALUES OF n MEMBER GENERAL FORMULAS 2/3 2 3 5 7 4 6 STRESS COEFFICIENTS D P P P P P -6.36 -8.11 -9.00 -10.06 -12.12 -14.23 -16.38 - 9/4 N 2 -5.66 -7.55 -8.50 - 9.62 -11.75 -1/4 ($9n^2 + 28$) -13.91 -16-11 -4.37 -6,00 -6.80 $-1/20 \left(37n^2 + 100\right)$ - 7-74 - 9.52 -11.31 -15-14 -4.24 -6.44 -7.50 - 8.72 -11,00 $-3/4 \left(\frac{3n^2 + 4}{N} \right)$ -13.28 -15.56 - 1/4 (9n2 + 4) -3.54 -5.89 -7,00 - 8-27 -10.63 -12-97 -15.28 -0.71 -0.85 -0.87 - 0.89 - 0.95 - 0.95 - 0.96 -1.08 -1-51 -1.38 - 1.44 - 1.56 - 1.66 - 1.76 $-3/20 \text{ n/N} \sqrt{n^2 + 100}$ -1.08 $-3/20 \text{ n/N} \sqrt{n^2 + 100}$ -1.31 -1-38 - 1.44 - 1.56 - 1.66 - 1.76 -0.71 -0.85 -0.87 - 0.89 - 0.93 - 0.95 - 0.96 - n/N 10 0.50 0.75 0.87 1,00 1.50 1/4 n 1.75 11 0.50 0.75 0.87 1.00 1.25 1/4 n 1,50 1.75 12 1,50 2,25 2.60 3.00 3.75 3/4 n 4.50 5.25 18 2.00 3.00 3.46 4.00 5,00 6,00 7.00 n 14 6.75 7.79 9.00 11.25 15,50 15.75 9/4 n 15 4.00 6.00 6.92 8,00 10,00 12,00 14.00 2n 2.50 3.75 4.34 5.00 6.25 7.50 8.75 5/4 n 0 0 0 0 0 0 0 0 LENGTH COEFFICIENTS H H H H H H H H 1, 2, 3, 4, 5 0.282843 0.360555 0.400000 0.447214 0.538516 0.632456 0.728011 1/10 N 6. 9 0.282843 0.240370 0.230947 0.223607 0.215407 0.210819 0.208003 1/5 N/n 7. 8 0.721110 0.627384 0.611028 0.602080 0.602080 0.614636 0.634750 $1/20 \text{ N/n} \sqrt{n^2 + 100}$ 10, 11, 13, 14 0.400000 0.433333 0.461894 0.500000 0.580000 0.666667 0.757143 1/10 N2/n 12, 16 0.600000 0.650000 0.692841 0.750000 0.870000 1,000000 1,135715 3/20 N2/n 0.000000 0.416667 0.575000 0.750000 1.050000 1,333333 1,607150 1/4 (n - 4/n) 1,000000 1,000000 1,000000 1,000000 1,000000 1,000000 1,000000 ANGLES (IN DEGREES) BETWEEN MEMBERS FOR USE AND CONNECTOR LOADS IN DETERMINING BOLT 1-14, 2-10, 4-11, 5-13 45 34 30 27 22 18 16 $2/n = \tan a$ 3- 7, 3- 8 79 78 71 68 63 59 55 $10/n = \tan b$ 6-10,6-14,9-11,9-13 45 56 60 63 68 72 74 90 - a 10-15, 11-12, 12-16 90 68 60 54 44 36 32 2a 7-15, 8-12 34 39 41 41 41 41 39 b - a 7-10, 8-11 56 73 79 85 95 105 100 180 - a - b 13-17 0 22 30 36 46 54 58 90 - 20 7-8 22 34 38 54 62 180 - 2b

1-6, 2-6, 4-9, 5- 9, 16-17

90

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90

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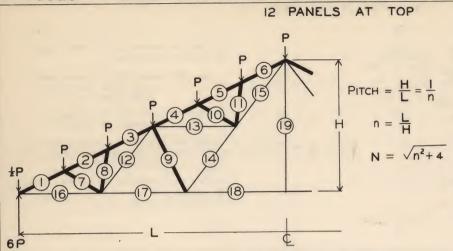
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TRUSSES - STRESS COEFFICIENTS, LENGTH COEFFICIENTS, & ANGLES - TRIANGULAR FAM



To find the stress in any member when the truss is loaded at:

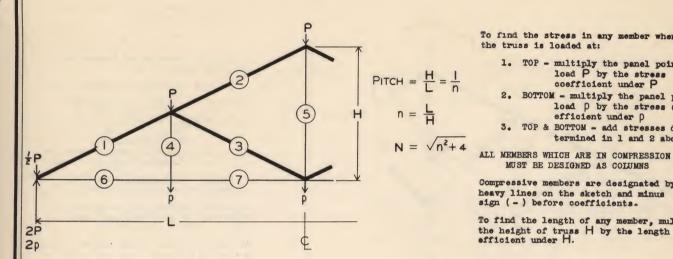
1. TOP - multiply the panel point load P by the stress coefficient under P

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

 $N=\sqrt{n^2+4}$ Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

1 2 3 4	2 P -7.78	3 P	2√3	VALUES 4	OF n	6	7	GENERAL FORMULAS
1 2 3	P -7.78			4	5	6	7	
3	-7.78	Р						
3	-7.78	Р		STRESS CO	EFFICIENT	S		
3			Р	Р	Р	Р	Р	Р
2 3		-9.92	-11.00	-12.30	-14.81	-17.39	-20.02	- 11/4 N
3	-6.84	-8.94	-10.00	-11,25	-13.66	-16.13	-18.62	$- 1/12 \left(\frac{31N^2 - 16}{N} \right)$
4	-6.36	-8.81	-10.00	-11.40	-14,07	-16.76	-19.47	$ - \frac{1}{12} \left(\frac{33N^2 - 48}{N} \right) $ $ - \frac{1}{12} \left(\frac{33N^2 - 72}{N} \right) $
-	-5.66	-8.25	- 9,50	-10,96	-13.70	-16.44	-19,20	= 1/12 (33N ² - 72)
5	-4.71	-7.28	- 8.50	- 9.91	-12,55	-15.18	-17.80	$-\frac{1}{12} \left(\frac{31N^2 - 88}{N} \right)$
6	-4.24	-7.14	- 8.50	-10.06	-12.95	-15,93	-18,65	- 1/12 (33N ² - 120)
7	-0.75	-0.93	- 1.00	- 1.07	- 1.21	- 1,34	- 1.48	$- \frac{1}{6} \frac{n}{N} \sqrt{n^2 + 36}$ $- \frac{1}{6} \frac{n}{N} \sqrt{n^2 + 36}$
8	-0.75	-0.93	- 1.00	- 1.07	- 1.21	- 1,34	- 1.48	= 1/6 n/N vn + 36
9	-2.12	-2.50	- 2.60	- 2.68	- 2.79	- 2.85 - 1.34	- 2.88 - 1.48	$- \frac{1}{6} \frac{1}{n} \sqrt{n^2 + 36}$
10	-0.75	-0.93	- 1.00	- 1.07	- 1.21 - 1.21	- 1.54 - 1.54	- 1.48	$= \frac{1}{6} \frac{1}{N} \sqrt{n^2 + 36}$
11	-0.75	-0.93	- 1.00	2.00	2,50	3,00	3,50	1/2 n
12	1.00	1.50	1.73	2.00	2,50	3,00	3,50	1/2 n
13	1,00	1.50 2.25	2.60	3,00	3.75	4.50	5.25	3/4 n
14	2,50	3.75	4.33	5,00	6,25	7,50	8.75	5/4 n
16	5.50	8,25	9.58	11.00	15.75	16.50	19.25	11/4 n
17	4,50	6,75	7.79	9,00	11,25	13,50	15.75	9/4 n
18	3,00	4,50	5,20	6.00	7,50	9.00	10.50	3/2 n
19	0	0	0	0	0	0	0	0
			l	ENGTH CO	DEFFICIENT	S		
	Н	Н	Н	Н	Н	Н	Н	Н
1, 2, 3, 4, 5, 6	0.235702	0,300463	0.333333	0.372678	0.448764	0.527046	0.606676	1/12 N
7, 8, 10, 11	0.572678	0.335927	0.335343	0.335927	0.350496	0.372678	0.399520	$1/24 \text{ N} \frac{\sqrt{n^2 + 36}}{n}$
	0.707107	0.600925	0.577367	0.559017	0.538516	0.527046	0.520008	1/2 N/n
12,13,14,15,16,17	0.500000	0.541667	0.577367	0.625000	0.725000	0.833333	0.946429	1/8 N ² /n
18	0.000000	0.416667	0.577250	0.750000	1.050000	1,333333	1.607150	1/4 (n - 4/n)
19	1,000000	1,000000	1.000000	1,000000	1,000000	1,000000	1,000000	1
ANGLES (IN	N DEGREE	S) BETWE	EN MEMBE	RS FOR USE	IN DET	ERMINING E	BOLT AND	CONNECTOR LOADS
-16,3-12,4-13,6-15	45	34	30	27	22	18	16	2/n = tan a
2-7,2-8,5-10,5-11	72	63	60	56	50	45	41	$6/n = \tan b$
12-17, 13-14, 14-18	90	68	60	54	44	36	32	2a
-12,9-13,9-14,9-17	45	56	60	63	68	72	74	90 - a
15-19	0	22	30	36	46	54	58	90 - 2a
7-16,8-12,10-13,	27	29	30	29	28	27	25	b = a
11-15	108	117	120	124	130	135	139	180 = b
7-8,10-11	36	54	60	68	80	90	98	180 = 2b
18-19	90	90	90	90	90	90	90	90

4 PANELS AT TOP & BOTTOM



To find the stress in any member when the truss is loaded at:

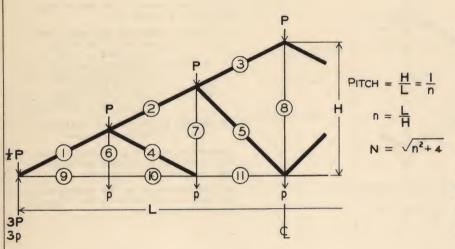
- 1. TOP multiply the panel point load P by the stress coefficient under P
- BOTTOM multiply the panel point load ρ by the stress so-efficient under ρ
- 3. TOP & BOTTOM add stresses de-termined in 1 and 2 above

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VAI	LUES	OF	n			1		GENERAL	FORMULAS	
~		2		3	2	/3	4	1	5	5	6		7		GENERAL	PORMULAS	
						5	STRES	ss co	DEFFI	CIENT	S						
	P	P	P	р	P	Р	P	р	P	р	P	p	P	р	Р	р	
1	-2.12	-2.12	-2.70	-2.70	-3.00	-3.00	-3.35	-3.35	-4.04	-4.04	-4.74	-4.74	-5.46	-5.46	- 3/4 N	- 3/4 N	
2	-1.41	-1.41	-1.80	-1.80	-2.00	-2.00	-2.24	-2.24	-2.69	-2.69	-3.16	-3.16	-3.64	-3.64	- 1/2 N	- 1/2 N	
3	-0.71	-0.71	-0.90	-0.90	-1.00	-1.00	-1.12	-1,12	-1.35	-1.35	-1.58	-1.58	-1.82	-1.82	- 1/4 N	- 1/4 N	
4	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1	
5	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1	2	
6	1.50	1.50	2.25	2.25	2.60	2.60	3.00	3.00	3.75	3.75	4.50	4.50	5.25	5.25	3/4 n	3/4 n	
7	1.50	1.50	2.25	2.25	2.60	2.60	3.00	3.00	3.75	3.75	4.50	4.50	5.25	5.25	3/4 n	3/4 n	
						L	ENGT	H CC	DEFFIC	CIENT	S						
		Н		Н	H	1	H	1	H	1	Н		Н			Н	
1, 2, 3	0.707	107	0.901	388	1.000	000	1.118	034	1.346	291	1.581	139	1,820	027	1	/4 N	
4	0.500	000	0,500	000	0.500	000	0.500	000	0.500	000	0.500	000	0.500	000	1	/2	
5	1,000	000	1,000	000	1,000	000	1.000	000	1,000	000	1.000	000	1.000	000	1		
6, 7	0,500	000	0.750	000	0.866	000	1.000	000	1.250	000	1.500	000	1.750	000	1	/4 n	
ANGLES	(IN DI	EGREE	s) B	ETWE	EN ME	MBEF	RS FO	R USE	IN	DETE	RMINI	NG B	OLT .	AND C	CONNECTOR	LOADS	
1-6, 3-7	45		34		30		27		22		18		16		2/n = tan a		
1-4, 2-5, 3-4, 3-5	45		56		60		63		68		72		74		90 - a		
2-3	90		68		60		54		44		36		32		2a		
4-6, 4-7	90 90				90		90		90		90		90		90		

+ STRESS COEFFICIENTS, LENGTH COEFFICIENTS, & ANGLES -HOWE TRUSSES TRIANGULAR

6 PANELS AT TOP & BOTTOM



To find the stress in any member when the truss is loaded at:

- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTON miltiply the panel point load p by the stress coefficient under p

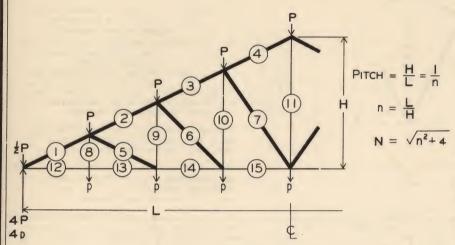
 3. TOP & BOTTOM add stresses determined in 1 and 2 above

 $N = \sqrt{n^2 + 4}$ all members which are in compression must be designed as columns

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VAL	UES	OF	11					GENERAL	FORMULAS	
WEMDER	1	2	9	3	2	3	4		5		6		7				
						S	TRES	s co	DEFFIC	CIENT	S						
	Р	P	P	р	P	Р	Р	р	P	р	P	Р	Р	Р	Р	Р	
1	-3.54	-3.54	-4.51	-4.51	-5.00	-5.00	-5.59	-5.59	-6.73	-6.73	-7.91	-7.91	-9.10		- 5/4 N	- 5/4 N	
2	-2.83	-2.83	-3,61	-3.61	-4.00	-4.00	-4.47	-4.47	-5.39	-5.39	-6.32	-6.32	-7.28	-7.28	- N	- N	
3	-2.12	-2.12	-2.70	-2.70	-3.00	-3.00	-3.35	-3.35	-4.04	-4.04	-4.74	-4.74	-5.46	-5.46	- 3/4 N	- 3/4 N	
4	-0.71	-0.71	-0.90	-0.90	-1.00	-1.00	-1.12	-1.12	-1.35	-1.35	-1.58	-1.58	-1.82	-1.82	$- \frac{1}{4} N$ $- \frac{1}{4} \sqrt{n^2 + 16}$	$- \frac{1}{4} N$ $- \frac{1}{4} \sqrt{n^2 + 16}$	
5	-1.12	-1.12	-1.25	-1.25	-1.32	-1.32	-1.41	-1.41	-1.60	-1.60	-1.8Q	-1.80	-2.02	-2.02	0	1	
6	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0 0.50	1.50	1/2	3/2	
7	0.50	1.50	0.50	1.50	0.50	1.50	2.00	1.50 3.00	2.00	3.00	2.00	3.00	2.00	3.00	2	3/2	
8	2.00	2.50	2.00 3.75	3.00	2.00 4.33	3.00 4.33	5.00	5.00	6.25	6.25	7.50	7.50	8.75	8.75	5/4 n	5/4 n	
	2.50			3.75		4.33	5.00	5.00	6.25	6.25	7.50	7.50	8.75	8.75	5/4 n	5/4 n	
10	2.50	2.50	3.75		4.33	3.46	4.00	4.00	5.00	5.00	6.00	6.00	7.00	7.00	n n	n n	
11	2.00	2.00	3,00	3.00	3.46	3.40	4.00					0,00	7.00	1,00			
						L	ENGT	H CC	DEFFIC	CIENTS	3						
		Н		Н	1	1	H	1	Н		Н		Н		1	Η	
1, 2, 3, 4	0.471	.405	0.600	925	0.666	667	0.745	356	0.897	527	1.054	093	1.213	352	1/6 N		
5	0.745	356	0.833	333	0.881	917	0.942	809	1.067	187	1.201	.850	1.343	710	1/6 √1	$n^2 + 16$	
6	0.333	333	0.333	333	0.333	333	0,333	3333	0.333	333	0.333	333	0.333	333	1/3		
7	0.666	667	0,666	667	0.666	667	0.666	667	0.666	667	0.666	6667	0.666	6667	2/3		
8	1.000	0000	1,000	000	1,000	000	1,000	0000	1.000	0000	1.000	0000	1.000	0000	1		
9, 10, 11	0.333	333	0.500	000	0.577	350	0.666	6667	0.833	333	1,000	000	1.166	667	1/6 n		
ANGLES	(IN D	EGRE	ES) E	ETWE	EN M	EMBE	RS FC	R US	E IN	DETE	RMINI	NG B	OLT	AND	CONNECTOR	LOADS	
1-9, 4-10	45	;	34		30		27	,	22		18		16	3	2/n =	tan a	
5-11	63	;	53		49		46	5	39		34		30)	4/n =	tan b	
6,2-7,3-8,4-6,4-7	45	5	56		60		63	3	68		72	:	74		90 -	0.	
5-7, 5-8	27		37		41		45	5	51		56	3	60)	90 - b		
2- 4	90)	68		60		54		44		36	3	32	2	2e		
3- 5	108	1	87		79		72	2	61		52		46	3	a+b		
6-9, 6-10, 7-11	90		90		90		90		90		90		90		90		

8 PANELS AT TOP & BOTTOM



To find the stress in any member when the truss is loaded at:

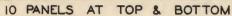
- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load p by the stress co-efficient under p
- 3. TOP & BOTTOM add stresses determined in 1 and 2 above

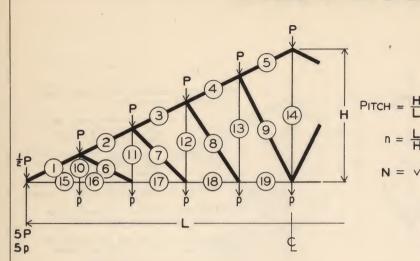
ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VA	LUES	OF	n					CENEDA	FORMULAS
,c		2		3	2	√3	4	1	5	5		6	7	7	GENERAL	L FORMULAS
							STRE	ss c	OEFFI	CIENT	rs					
	P	Р	P	р	Р	Р	P	р	Р	р	Р	р	Р	р	Р	Р
1	-4.95	-4.95	-6.31	-6.31	-7.00	-7.00	-7.83	-7.83	-9.42	-9.42	-11.07	-11.07	-12.74	-12.74	- 7/4 N	- 7/4 H
2	-4.24	-4.24	-5.41	-5.41	-6.00	-6.00	-6.71	-6.71	-8.08	-8.08	- 9.49	- 9.49	-10.92	-10.92	- 3/2 N	- 3/2 N
3	-3.54	-3.54	-4.51	-4.51	-5.00	-5.00	-5.59	-5.59	-6.73	-6.73	- 7.91	- 7.91	- 9.10	- 9.10	- 5/4 N	- 5/4 N
4	-2.83	-2.83	-3.61	-3.61	-4.00	-4.00	-4.47	-4.47	-5.39	-5.39	- 6.32	- 6.32	- 7.28	- 7.28	- N	- N
5	-0.71	-0.71	-0.90	-0.90	-1.00	-1.00	-1.12	-1.12	-1.35	-1.35	-		- 1.82	- 1.82	- 1/4 N	- 1/4 N
6	-1.12	-1.12	-1.25	-1.25	-1.32	-1.32	-1.41	-1.41	-1.60	-1.60	- 1.80		- 2.02	- 2.02	$-1/4\sqrt{n^2+1}$	
8	-1.58 0	1.00	-1.68	-1.68	-1.73	-1.73	-1.80	-1.80	-1.95	-1.95				- 2.30	$-1/4\sqrt{n^2+3}$	
9	0.50	1.50	0	1.50	0.50	1.00	0	1.00	0	1.00	0	1.50	0	1.00	0 1/2	1
10	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00		1.00	1.50	1/2	3/2
11	3,00	4.00	3.00	4.00	3.00	4.00	3.00	4.00	3.00	4.00	3.00	4.00	3.00	4.00	3	4
12	3.50	3,50	5.25	5.25	6.06	6.06	7.00	7.00	8.75	8.75	10.50	10.50	12.25	12.25	7/4 n	7/4 n
13	3.50	3.50	5.25	5.25	6.06	6.06	7.00	7.00	8.75	8.75	10.50	10.50	12.25	12,25	7/4 n	7/4 n
14	3.00	3.00	4.50	4.50	5.20	5.20	6,00	6.00	7.50	7.50	9.00	9.00	10.50	10.50	3/2 n	3/2 n
15	2.50	2.50	3.75	3.75	4.33	4.33	5.00	5.00	6.25	6.25	7.50	-	8.75	8.75	5/4 n	5/4 n
						L	ENGTH	1 00	EFFIC	IENTS	3					
	H	1	H	1	Н		Н		Н		Н		Н			Н
1, 2, 3, 4, 5	0.353	553	0.450		0.500	000	0.559	017	0.673	146	0.790	0569	0.910	014	1/8	N
6	0.559		0.625		0.661		0.707		0.800		0.903		1.007	782	,	$\sqrt{n^2 + 16}$
7	0.790		0.838		0.866		0.901		0.976		1.060		1.152		,	$\sqrt{n^2 + 36}$
8	0.250		0.250		0.250		0.250	-	0.250		0.250		0.250		1/4	
10	0,500	- 1	0.500		0.500		0.500		0.500		0,500		.0.500		1/2	
11	1.000		1,000		1.000		0.750		0.750		0.750		0.750		3/4	
12, 13, 14, 15	0.250		0.375		0.433		0.500		0.625		0.750		0.875		1 1/8	_
	-														,	
	IN DE	GREES	S) BE	TWEE	N ME	MBER	S FOR	USE	IN [)E FER	RMININ	IG BC	DLT A	מאט כ	ONNECTOR	LOADS
1-12, 5-13	45		34		30		27		22		18		16			= tan a
6-14 7-15	63 72		53		49		45		39		34		30		/.	= tan b
1- 8, 2-9, 3-10,	1		63		60		56		50		45		41		6/n	= tan.e
4-11, 5-8, 5- 9	45		56		60		63		68		72		74		90	- a.
6- 9, 6-10	27		37		41		45		51		56		60		90	- p.
7-10, 7-11	18		27		-30		34		40		45		49			- 0
2=5 3=6	90		68 87		60 79		54		44		36		32			2a
4-7	117		97		90		72 83		61 72	.	52 63		46 57		-	+ b + o
3-12,8-13,9-14,10-15	90		90		90		90		90		90		90			+ o

TRUSSES - STRESS COEFFICIENTS, LENGTH COEFFICIENTS, & ANGLES -HOWE TRIANGULAR





To find the stress in any member when the truss is loaded at:

- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load p by the stress coefficient under p

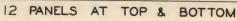
 5. TOP & BOTTOM add stresses determined in 1 and 2 above

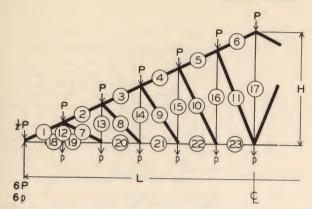
ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER 2 3 2√3 4 5 6 7 GENERAL FORMULAS																	
P P P P P P P P P P	MEMBED	1						VAL	LUES	OF	n					GENERAL	FORMULAS
P P P P P P P P P P	MEMBER	:	2	3	3	2	3	4		5		6		7		GENERAL	FORMOLAS
1							9	TRES	S C	DEFFI	CIENT	S					
2		P	P	P	р	P	Р	P	р	Р	р	P	р	Р	р	Р	Р
3	1	-6.36	-6.36	-8.11	-8.11	-9.00	-9.00	-10.06	-10.06	-12.12	- 1 2.12	-14.23	-14.23	-16.38	-16.38	- 9/4 N	- 9/4 N
4	2		-5.66	-7.21	-7.21	-8.00	-8.00	- 8.94	- 8.94	-10.77					-14.56		
6																,	,
8																	
7																,	
8		1											-				
9																	
111	9		1		-2.14		-2.18	- 2.24	- 2.24	- 2.36					- 2.66	$-1/4\sqrt{n^2+64}$	$-1/4\sqrt{n^2+64}$
12	10	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	
135							_			-	-	_	-				1
14		1															
15						- 1			-				-	-	-	,	1
16			-					-		-							
17			1			-		_							-		'
19 3,00 4,50 4,50 4,50 5,20 5,20 6,00 7,50 7,50 9,00 9,00 10,50 10,50 3/2 n 3/2 n				_				_							-	, ,	,
LENGTH COEFFICIENTS COEFFICIEN	18	3.50	3.50	5.25	5.25	6.06	6.06	7.00	7.00	8.75	8.75	10,50	10.50	12.25	12.25	7/4 n	7/4 n
H H H H H H H H H H H H H H H H H H H	19	3.00	3.00	4.50	4.50	5.20	5.20	6,00	6,00	7,50	7.50	9,00	9,00	3/2 n	3/2 n		
1, 2, 3, 4, 5, 6 0, 282843 0, 500000 0, 629150 0, 529150 0, 532456 0, 640312 0, 921954 1/10 \(\text{\substantial} \) 1/10 \(\su							L	ENGT	H C	DEFFIC	CIENTS	3					
7		1	4	H	1	H	i	H	1	H	1	Н		Н			4
8	1, 2, 3, 4, 5, 6	0.282	843	0.360	555	0.400	000	0.44	7214	0.538	3516	0.63	2456	0.728	3011	1/10	N
9	7	1														,	-
10	_															, -	
11				-		-						_				/	$\sqrt{n^2+64}$
12			-						-		-						
13														-		/ -	
15, 16, 17, 18, 19	13															,	
ANGLES (IN DEGREES) BETWEEN MEMBERS FOR USE IN DETERMINING BOLT AND CONNECTOR LOADS 1-15,6-16	14	1.000	000	1,000	000	1,000	000	1.000	0000	1.000	0000	1.000	0000	1.000	0000	,	
1-15,6-16	15, 16, 17, 18, 19	0.200	0000	0.300	000	0.346	400	0.400	0000	0.500	0000	0.60	0000	0.700	0000	1/10	n
7-17 63 63 63 69 49 45 39 34 30 4/n = tan b 8-18 72 63 60 56 50 45 41 66/n = tan c 9-19 76 69 67 63 58 53 49 8/n = tan d 1-10,2-11,3-12, 4-13,5-14,6-10,6-11 45 56 60 63 68 72 74 90 - a 1-11,7-12 27 37 41 45 51 56 60 90 - b 8-12,8-13 18 27 30 34 40 45 49 90 - c 9-13,9-14 14 21 23 27 32 37 41 90 - d 2-6 90 68 60 54 44 36 32 2a 3-7 108 87 79 72 61 52 46 a+b 4-8 117 97 90 83 72 65 57 a+c 5-9 121 103 97 90 80 71 65 a+d 10-15,10-16,11-17, 90 90 90 90 90 90 90 90 90 90																	
8-18 72 63 60 56 50 45 41 6/n = tan o 9-19 76 69 67 63 58 53 49 8/n = tan o 8/n = tan o 8/n = tan d 1-10,2-11,3-12, 45 56 60 63 68 72 74 90 - a 1-11,7-12 27 37 41 45 51 56 60 90 - b 8-12,8-13 18 27 30 34 40 45 49 90 - c 9-13,9-14 14 21 23 27 32 37 41 90 - d 2-6 90 68 60 54 44 36 32 2a 3-7 108 87 79 72 61 52 46 a + b 4-8 117 97 90 83 72 63 57 a + c 6-9 121 103 97 90 80 71 65 a + d 10-15,10-16,11-17, 90 90 90 90 90 90 90 90 90 90 90 90 90		1		-				-								-,	
9-19 76 69 67 63 58 53 49 8/n = tan d 1-10,2-11,3-12, 45 56 60 63 68 72 74 90 - a 1-10,2-11,3-12, 4-15,5-14,6-10,6-11 7-11,7-12 27 37 41 45 51 56 60 90 - b 8-12,8-13 18 27 30 34 40 45 49 90 - c 9-13,9-14 14 21 23 27 32 37 41 90 - d 2-6 90 68 60 54 44 36 32 2a 3-7 108 87 79 72 61 52 46 a+b 4-8 117 97 90 83 72 65 57 a+c 5-9 121 103 97 90 80 71 65 a+d 10-15,10-16,11-17, 90 90 90 90 90 90 90 90 90												-				,	
1-10,2-11,3-12, 4-13,5-14,6-10,6-11 7-11,7-12 27 37 41 45 56 60 63 68 72 74 90 - a 90 - a 90 - b 8-12,8-15 18 27 30 34 40 45 49 90 - c 9-13,9-14 14 21 23 27 32 37 41 90 - d 2-6 90 68 60 54 44 36 32 2a 3-7 108 87 79 72 61 52 46 a + b 4-8 117 97 90 83 72 63 57 41 90 90 90 90 90 90 90 90 90 9										1				-		· .	
7-11,7-12 27 37 41 45 51 56 60 90 - b 8-12,8-13 18 27 30 34 40 45 49 90 - c 9-13,9-14 14 21 23 27 32 37 41 90 - d 2-6 90 68 60 54 44 36 32 2a 3-7 108 87 79 72 61 52 46 a + b 4-8 117 97 90 83 72 63 57 a + c 5-9 121 103 97 90 80 71 65 a + d 10-15,10-16,11-17, 90 90 90 90 90 90 90 90	1-10,2-11,3-12,	-								-							
8-12,8-13				-													
9-13,9-14		1															
3=7 108 87 79 72 61 52 46 a+b 4=8 117 97 90 83 72 63 57 a+o 5=9 121 103 97 90 80 71 65 a+d 10-15,10-16,11-17, 90 90 90 90 90 90 90 90	_	14		21		23		27	7	32	2	37	7	43	L	90 -	d
4-8 117 97 90 83 72 63 57 a + o 65 5-9 121 103 97 90 80 71 65 a + d 10-15,10-16,11-17, 90 90 90 90 90 90 90 90	2-6	90		68		60		54	1			36	3	32		2a	
5-9 121 108 97 90 80 71 65 a + d 10-15,10-16,11-17, 90 90 90 90 90 90																	
10-15,10-16,11-17, 90 90 90 90 90 90 90 90												-		-		-	•
		90		90		90		90)	90)	90)	90)	90	

TRUSSES-STRESS COEFFICIENTS, LENGTH COEFFICIENTS, 8 ANGLES-TRIANGULAR HOWE





PITCH =
$$\frac{H}{L} = \frac{I}{n}$$

 $n = \frac{L}{H}$
 $N = \sqrt{n^2 + 4}$

To find the stress in any member when the truss is loaded at:

- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load p by the stress coefficient under p
 3. TOP & BOTTOM add stresses determined in 1 and 2 above

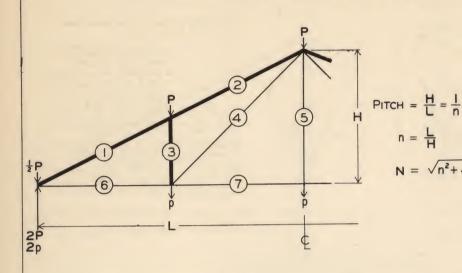
ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

6P 6p	L				(£								the h	nd the length of truss lent under H.	of any member, multiply H by the length co-
MEMBER							VA	LUE	S OF	n					O S N S S	
		2	3	3	2	√3		4		5		6		7	GENER	RAL FORMULAS
						ST	RES	s c	OEFF	ICIEN	ITS					
	P	P	P	р	P	р	2	р	P	p	P	р	P	р	Р	Р
1 2	-7.78 -7.07	-7.78 -7.07	-9.92						-14.81				-20.02		- 11/4 N	- 11/4 N
3	-6.36	-6.36	-8.11	-8.11					-13.46				-18,20	-18.20 -16.88	- 5/2 N - 9/4 N	- 5/2 N - 9/4 N
5	-5.66	-5.66	-7.21	-7.21	- 8.00	- 8,00	- 8.94	- 8.94	-10.77	-10.77	-12.65	-12,65			- 2 N	- 2 N
6	-4.95 -4.24	-4.95	-6.31 -5.41	-6.31 -5.41		- 7.00 - 6.00			- 9.42	- 9.42 - 8.08	-11.07 - 9.49		-12.74 -10.92		- 7/4 N - 3/2 N	- 7/4 N
7	-0.71	-0.71	-0.90	-0.90	- 1.00	- 1.00	- 1,12						- 1.82		- 1/4 N	- 3/2 M - 1/4 N
8	-1.12	-1.12	-1.68	-1.68	-	- 1.32 - 1.73	- 1.41 - 1.80	- 1.41 - 1.80	- 1.60				- 2.02		$-1/4\sqrt{n^2+16}$	$-1/4\sqrt{n^2+16}$
10	-2.06	-2.06	-2.14	-2.14		- 2.18	- 2.24	- 2.24		- 2.36		- 2.12 - 2.50			$- \frac{1}{4} \sqrt{n^2 + 36}$ $- \frac{1}{4} \sqrt{n^2 + 64}$	$ - \frac{1}{4} \sqrt{n^2 + 36} $ $ - \frac{1}{4} \sqrt{n^2 + 36} $
11	-2.55	-2,55	-2.61	-2.61		- 2.65	- 2.69	- 2.69		- 2.80	- 2.92	- 2.92	- 3.05		$-1/4\sqrt{n^2+100}$	- 1/4 \(\sigma^2 + 100\)
13	0,50	1.50	0.50	1.50	0	1.50	0.50	1,00		1.50	0	1.00	0	1.00	0 1/2	1
14	1,00	2.00	1.00	2.00	1,00	2,00	1,00	2.00		2.00	1.00	2.00	1.00	2.00	1	3/2
15 16	2,00	3.00	2.00	2,50	1.50 2.00	2.50	1.50	2.50		2.50	1.50	2.50	1.50	2,50	3/2	5/2
17	5.00	6.00	5.00	6.00	5.00	6.00	5.00	3.00 6.00		6.00	5.00	8,00	5.00	3.00 6.00	5	3 6
18	18 5,50				9.53	9.53	11,00	11.00		15.75	16.50	16.50	19.26	19.25	11/4 n	11/4 n
19	5.00	5.50	7.50	8.25 7.50	9.53	9.53	10,00	10.00	13.75	13.75	16.50	16.50	19,25	19,25	11/4 n	11/4 n
21	4.50	4,50	6,75	6.75	7.79	7.79	9.00	9.00		12.50	15.00	15.00	17.50	17.50	5/2 n 9/4 n	5/2 n 9/4 n
22 23	4.00	4,00	6,00	6.00	6.23	6.93	8.00	8,00	10,00	10,00	12.00	12,00	14,00	14,00	2 n	2 n
28	3,50	3,50	5.25	5.25	6,06	6,06	7.00	7.00	8,75	8.75	10.50	10.50	12.25	12,25	7/4 n	7/4 n
						LE	NGTH	1 C	OEFF	CIEN	TS					
	Н	_	Н		Н		• -	1	H		H	1	H	1	H	1
1, 2, 3, 4, 5, 6, 7	0.235		0.300		0.533		0.372		0.448		0,527		0,606		1/12 N	
9	0.527		0.559		0.577		0,600		0.650		0,600		0.671		1/12 Vi	n ² + 16
10	0,687		0.712	000	0.726	483	0.745	356	0.786		0.833		0.885		1/12 √1	
11 12	0.849		0.870		0.881		0.897		0.931		0.971		1.017		1/12 √r	n²+100
13	0.3333		0.3333		0.166		0.166		0.166		0.166		0.166		1/6	
14	0,5000	000	0.5000	000	0,5000	000	0.500		0.500		0.500		0.500		1/2	
15 16	0.6666		0.6666		0,6666		0.666		0.666		0,666		0.666	667	2/3	
17	1.0000		1,0000		1.0000		1,000		1,000		0.833		0.853		5/6	
18, 19, 20, 21, 22, 23	0.1666		0.2500		0.2886	- 1	0.333		0.416		0.500		0.583		1 1/12 n	
ANGLES (IN DEC	REES) B	ETWE	EN	MEMB	ERS	FOR	USE	E IN	DET	ERMI	NING	BOL	T A		CTOR LOADS
1-18,7-19					30	T	27		22	I	18		16		2/n =	tan a
9-21 10-22	63 72 76		63 69		49 60 67		45 56		59 50		34 45		30 41		4/n = 6/n =	tan b
11-23 1-12,2-13,3-14,4-16, 5-16,6-17,7-13	79 45		73 56		71		68		58 63		53 59		55		8/n = 10/n =	tan e
8-13, 8-14	27		37		60		63 45		68 51		72 56		74 60		90 -	
9-14, 9-15 10-15, 10-16	18		27		30 23		34 27		40 32	-	45 37		49		90 =	d d
11-16,11-17 2- 7 3- 8	90		17 68		19 60		22 54		27		31 36		35 32		90 - 2a	•
3= 8 4- 9 5-10	108 117 121		97	+	79 90	-	72 83		61 72		52 63		46 57		a +	0
6-11 12-18,12-19,13-20, 14-21,14-22,16-23	124		103 107 90		97 101 90		90 95 90		80 85 90		71 77 90		65 71 90		a + a + 90	d.

TRUSSES - STRESS COEFFICIENTS, LENGTH COEFFICIENTS, & ANGLES - TRIANGULAR PRATT

4 PANELS AT TOP & BOTTOM



To find the stress in any member when the truss is loaded at:

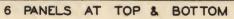
- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the penel point load ρ by the stress coefficient under ρ
- 5. TOP & BOTTOM add stresses determined in 1 and 2 above

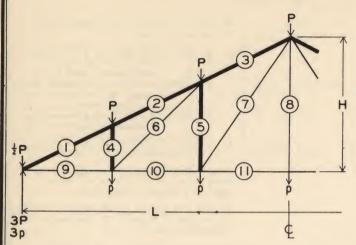
 $N = \sqrt{n^2 + 4}$ All members which are in compression most be designed as columns

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VAL	UES	OF	n					GENERAL	FORMULAS
MEMOER		2	3	3	2	3	4		5		6		7			
						S	TRES	s cc	DEFFIC	IENT	3					
	P	Р	P	Р	P	р	Р	р	P	р	Р	р	P	р	Р	р
1	-2.12	-2.12	-2.70	-2.70	-3.00	-3. 00	-3.35	-3.35	-4.04	-4.04	-4.74	-4.74	-5.46	-5.46	- 3/4 N	- 3/4 N
2	-2.12	-2.12	-2.70	-2.70	-3.00	-3.00	-3.35	-3.35	-4.04	-4.04	-4.74	-4.74	-5.46	-5.46	- 3/4 N	- 3/4 N
3	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1.00	0	- 1	0
4	1.12	1.12	1,25	1.25	1.32	1.32	1.41	1.41	1,60	1.60	1.80	1.80	2.02	2.02	$1/4\sqrt{n^2+16}$	$1/4\sqrt{n^2+1}$
5	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1
6	1.50	1.50	2.25	2.25	2,60	2,60	3.00	3,00	3.75	3.75	4.50	4.50	5.25	5.25	3/4 n	3/4 n
7	1.00	1.00	1.50	1.50	1.73	1.73	2.00	2.00	2.50	2.50	3.00	3.00	3.50	3.50	1/2 n	1/2 n
						L	ENGT	H C	DEFFIC	CIENT	S					
		Н		Н	H	1	H	1	H	1	Н		Н		-	1
1, 2	0.70	7107	0.90	1388	1,000	0000	1.116	3034	1.34	5291	1.58	1139	1.820	0027	1/4 N	
3	0.50	0000	0.500	0000	0.500	0000	0.500	0000	0.50	0000	0.500	0000	0.50	0000	1/2	
4	1.11	8054	1.250	0000	1,322	2876	1.414	1214	1.600	781	1,80	2776	2.01	5564	1/4 V	n ² + 16
5	1.00	0000	1,000	0000	1,000	0000	1,000	0000	1,000	0000	1,000	0000	1,000	0000	1	
6, 7	0.50	0000	0.75	0000	0.86	5000	1,000	0000	1,25	0000	1.50	0000	1.75	0000	1/4 n	
ANGLES	(IN D	EGREE	s) B	ETWE	EN M	EMBER	RS FO	R US	E IN	DETE	RMINII	NG B	OLT	AND	CONNECTOR	LOADS
1-6	45	5	34		30)	27		22		18	3	16	3	2/n -	tan a
4-7	68	5	53	3	49		45	;	39		34		30)	4/n =	tan b
1-3	4.0	5	56	3	60)	63		68		72	2	74		90 -	
3-4, 4-5	2'	7	37	,	43	L	45		53		56	3	60)	90 -	b
2-4	10	3	19)	19)	18	3	17		16	3	14	1	b -	8.
2-3	13	5	124		120)	117		112	:	108	3	106	3	90 +	
3-6, 5-7	90	2	90)	90)	90)	90)	90		90)	90	

STRESS COEFFICIENTS, LENGTH COEFFICIENTS, & ANGLES TRIANGULAR PRATT





PITCH =
$$\frac{H}{L} = \frac{1}{n}$$

1. TOP - multiply the panel point load P by the stress coefficient under P

2. BOTTOM - multiply the panel point load P by the stress coefficient under P

the truss is loaded at:

2. BOTTOM - multiply the panel point load p by the stress co-efficient under p

5. TOP & BOTTOM - add stresses determined in 1 and 2 above

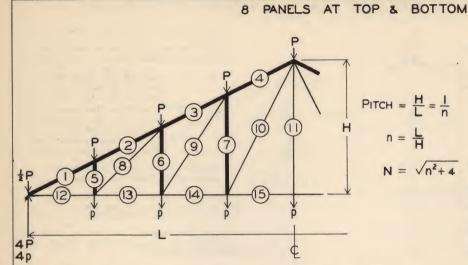
ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

To find the stress in any member when

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

O p	J.						_									
MEMBER			,	-			VAI	LUES	OF	n					GENERAL	FORMULAS
		2		3	2	√3	4	1	5	5	6	1	7		OLIVE!!!	TOMMOCAU
	1				,		STRES	SS C	OEFFI	CIENT	S			,		
	P	P	P	р	Р	p	P	р	Р	р	P	p	P	р	Р	р
1	-3.54	-3.54	-4.51	-4.51	-5.00	-5.00	-5.59	-5.59	-6.73	-6.73	-7.91	-7.91	-9.10	-9.10	- 5/4 N	- 5/4 N
2	-3.54	-3.54	-4.51	-4.51	-5.00	-5.00	-5.59	-5.59	-6.73	-6.73	-7.91	-7.91	-9.10	-9.10	- 5/4 N	- 5/4 N
3	-2.83	-2.83	-3.61	-3.61	-4.00	-4.00	-4.47	-4.47	-5.39	-5.39	-6.32	-6,32	-7.28	-7.28	- N	- N
4	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1.00	0	- 1	٥
5	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	- 3/2	- 1/2
6	1,12	1.12	1.25	1.25	1.32	1.32	1.41	1.41	1,60	1,60	1.80	1.80	2.02	2.02	$1/4\sqrt{n^2+16}$	$1/4\sqrt{n^2+16}$
7	1.58	1.58	1.68	1.68	1.73	1.73	1.80	1.80	1.95	1.95	2.12	2,12	2.30	2.30	$1/4 \sqrt{n^2 + 36}$	$1/4\sqrt{n^2+36}$
8	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1
9	2.50	2.50	3.75	3.75	4.33	4.33	5,00	5.00	6.25	6.25	7.50	7.50	8.75	8.75	5/4 n	5/4 n
10	2.00	2.00	3.00	3.00	3.46	3.46	4.00	4.00	5.00	5,00	6,00	6.00	7.00	7.00	n	n
11	1.50	1.50	2.25	2.25	2.60	2.60	3.00	3.00	3.75	3.75	4.50	4.50	5.25	5.25	3/4 n	3/4 n
						L	ENGT	H C	DEFFIC	CIENT	S		L			
		Н		Н	ŀ	1	H	1	Н		Ĥ		H	1	F	1
1, 2, 3	0.47	1405	0.60	0925	0.66	6075	0.74	5356	0.89	7527	1.05	4093	1,21	3352	1/6 N	
4	0.53	3333	0.33	3333	0.33	3333	0.33	3333	0.33	5333	0.33	3333	0.33	3333	1/3	
5	0.66	6667	0.66	6667	0.66	6667	0.66	6667	0.66	6667	0.66	6667	0.66	6667	2/3	
6	0.74	5356	0.83	3333	0.88	1917	0.94	2809	1,06	7187	1.20	1850	1,34	3710	1/6 V	n ² + 16
7	1.05	4093	1.11	8034	1.15	4701	1.20	1850	1.30	1708	1.41	4214	1.53	6591	1/6 ∨	$n^2 + 36$
8	1,000	0000	1.00	0000	1,000	0000	1,00	0000	1.000	0000	1.000	0000	1,000	0000	1	
9, 10, 11	0.33	5333	0.50	0000	0.57	7333	0.66	6667	0.833	3333	1,000	0000	1.16	6667	1/6 n	
ANGLES	(IN D	EGRE	ES) E	ETWE	ÉN M	EMBE	RS FC	R US	E IN	DETE	RMINI	NG B	OLT	AND	CONNECTOR	LOADS
1- 9	41	5	34		30		2	7	22		18	В	10	6	2/n =	tan a
6-1 0	65	5	54	5	49		41	5	39	,	34	4	30	0	4/n =	tan b
7-11	72	2	64	3	60		56	5	50		44	5	4:	1	6/n =	tan o
1- 4	41	5	56	3	60		68	3	68		72	2	74	4	90 -	
4-6, 5-6	27	7	37		41	1	48	5	51		56	3	60		90 -	ъ
5-7, 7-8	18	3	27		30		34		40)	48	5	49		90 -	0
2- 6	18	3	19	,	19	,	18	3	17		16	3	14	4	b	
3- 7	27		29		30		29	,	28		27		28	5	o -	8
2-4, 3-5	138	5	124		120	,	117		112		108		106	3	90 +	
4-9, 5-10, 8-11	90		90		90		90		90		90		90		90	

TRUSSES PRATT - STRESS COEFFICIENTS, LENGTH COEFFICIENTS, & ANGLES TRIANGULAR



To find the stress in any member when the truss is loaded at:

- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load p by the stress coefficient under p

 5. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VAL	LUES	OF	n					GENERAL	FORMULAS
		2		3	2/	/3	4		5		6	3	7		CENERAL	TORMOLAG
						9	STRES	ss c	DEFFI	CIENT	S					
	P	P	P	р	P	Р	P	р	P	р	P	p	P	р	Р	р
1	-4.95	-4.95	-6.31	-6.31	-7.00	-7.00	-7.83	-7.83	-9.42	-9.42	-11.07	-11.07	-12.74	-12.74	- 7/4 N	- 7/4 N
2	-4.95	-4.95	-6.31	-6.31	-7.00	-7.00	-7.83	-7.83	-9.42	-9.42	-11.07	-	-12.74		- 7/4 N	- 7/4 N
3	-4.24	-4.24	-5.41	-5.41	-6.00	-6.00	-6.71	-6.71	-8.08		- 9.49		-10,92	-	- 3/2 N	- 3/2 N
4	-3.54	-3.54	-4.51	-4.51	-5.00	-5.00	-5.59	-5.59	-6.73		- 7.91		- 9.10		- 5/4 N	- 5/4 N
5	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1.00	0	- 1,00	0	- 1.00	0	- 1	0
6	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	-1.50		- 1.50	- 0.50		- 0.50	- 3/2 - 2	- 1/2
7	-2.00	-1.00	-2.00	-1.00	-2.00	-1.00	-2.00	-1.00	-2.00	-1.00		- 1.00 1.80	2.02	- 1.00 2.02	$1/4\sqrt{n^2+16}$	$1/4\sqrt{n^2+1}$
8	1.12	1.12	1.25	1.25	1.32	1.32	1.41	1.41	1.60	1.60	1.80	2.12	2.30	2.30	$1/4 \sqrt{n^2 + 36}$	$1/4\sqrt{n^2+3}$
9	1.58	1.58	1.68	1.68	1.73 2.18	2.18	2.24	2.24	2.36	2.36		2.50	2.66	2.66	$1/4 \sqrt{n^2 + 64}$	$1/4\sqrt{n^2+6}$
11	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1
12	3,50	3.50	5.25	5.25	6.06	6.06	7.00	7.00	8.75	8.75		10.50		12.25	7/4 n	7/4 n
13	3.00	3.00	4.50	4.50	5.20	5.20	6.00	6.00	7.50	7.50		9.00		10.50	3/2 n	3/2 n
14	2.50	2,50	3.75	3.75	4.33	4,33	5.00	5.00	6.25	6.25		7.50		8.75	5/4 n	5/4 n
15	2.00	2.00	3.00	3.00	3.46	3.46	4.00	4.00	5.00	5.00	6.00	6.00	7.00	7.00	n	n
	-						ENGT	- C	DEFFI	CIENT	. c	1	1			
	1	11		Н		Н	FINGI		JEFF!			4	-	1		Н
		H		-					-						- /-	
1, 2, 3, 4		53553		0694	0,50			9017	0,67			90569		10014	1/8	N
5	0.28	50000	0.25	0000	0.25	0000	0.25	0000	-	0000		50090		50000	1/4	
6	0.50	00000	0.50	00000	0.50	0000	0.50	0000	0.50	0000	0.50	00000	0.50	00000	1/2	
7	0.78	50000	0.75	0000	0.75	0000	0.75	0000	0.75	0000	0.71	50000	0.78	50000	3/4	
8	0.58	59017	0.62	5000	0.66	1438	0.70	7107	0.80	0391	0.90	01388	1.00	7782		$\sqrt{n^2+16}$
9	0,79	90569	0.83	8525	0.86	6025	0.90	1388	0,97	6281	1.00	60660	1.18	2443	1/8	$\sqrt{n^2 + 36}$
10	1.03	30776	1.06	8000	1.08	9725	1.11	8034	1.17	9248	1.2	50000	1.32	28768	1/8	$\sqrt{n^2+64}$
11	1.00	00000	1.00	00000	1.00	0000	1.00	00000	1.00	0000	1.00	00000	1.00	00000	1	
12, 13, 14, 15	0.25	50000	0.37	5000	0.43	3000	0.50	00000	0.62	5000	0.7	50000	0.87	75000	1/8	n
ANGLES	(IN	DEGRE	EES)	BETW	EEN N	MEMBE	RS F	OR U	SE IN	DET	ERMIN	NING	BOLT	AND	CONNECTO	R LOADS
1-12		45	1	34		30		27		22		18		16	,	n = tan a
8-13		63		53		49		45		39		34		30	7	n = tan b
9-14		72		63		60		56		50		45		41	,	n = tan o
10-15 1- 5		76 4E	1	69 56		67		63 63		58 68		53 72		49	,	$n = \tan d$ $0 = a$
1- 5 5- 8, 6- 8	-	45 27		37		41		45		51		56		60		0 = a
6-9,7-9		18	1	27		30		34	1	40		45		49		0 - 0
7-10-10-11		14		21		23		27		32		37		41		0 = d
2- 8		18		19		19		18		17		16		14	_	b = a
3- 9		27	-	29		50		29		28		27		25		0 - 8
4-10		31		35		37		36		36		35		33		d - a
2-5, 3- 6, 4-7		135	1	124	1	20	1	117	1	112		108		106	9	0 + a
2,6-13,7-14,11-	16	90		90		90		90	1	90		90		90		90

90 - b

90 - 0

90 - d

90 - 0

b - a

c - a

d - a

e - a

90 + a

90

WOOD STRUCTURAL DESIGN DATA PRATT TRUSSES -STRESS COEFFICIENTS, LENGTH COEFFICIENTS, & ANGLES TRIANGULAR AT TOP & 10 PANELS BOTTOM To find the stress in any member when the truss is loaded at: 1. TOP - multiply the panel point load P by the stress coefficient under P PITCH = BOTTOM - multiply the panel point 2. load D by the stress co-(13)(14)H efficient under D 3. TOP & BOTTOM - add stresses de-termined in 1 and 2 above (12)9 8 $N = \sqrt{n^2 + 4}$ ALL MEMBERS WHICH ARE IN COMPRESSION (10 MIST BE DESIGNED AS COLUMNS Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients. To find the length of any member, multiply the height of truss H by the length coefficient under H. 5P 5p VALUES OF n GENERAL FORMULAS MEMBER 2/3 7 2 3 4 5 6 STRESS COEFFICIENTS P P P P P P P P p p p p p p D - 9/4. N -12.12 -14.23 -14.23 -16.38 -16.38 -10.06 -10.06 -12.12 -6.36 -6.36 -8.11 -8.11 -9.00 -9-00 - 9/4 N - 9/4 N -14-23 -14-23 -16-38 -13,38 -6.36 -6,36 -8.11 -8.11 -9.00 -9.00 -10.06 -10.06 -12,12 -12,12 2 - 8.94 - 8.94 -10,77 -10.77 -12.65 -12.65 -14.56 -14.56 - 2 N - 2 N -7.21 -8.00 -8.00 -7.21 3 -5-66 -5-66 - 7/4 N -11.07 -11.07 -12.74 -12.74 - 7/4 N - 9.42 - 9.42 -6.31 -7.00 -7.00 - 7.83 - 7.83 -4.95 -4.95 -6.31 - 3/2 11 - 3/2 N -6,00 -6.00 - 6.71 6.71 8.08 - 8.08 - 9.49 - 9.49 -10,92 -10,92 -4.24 -5.41 -5.41 5 -4.24 - 1.00 0 - 1.00 0 - 1.00 0 - 1 0 - 1.00 -1.00 0 -1.00 0 -1.00 0 0 6 - 1.50 - 0.50 - 1.50 0.50 - 3/2 - 1/2 0.50 - 1.50 0.50 -0.50 -1.50 -0.50 -1.50 -0.50 - 1.50 -1.50 - 1 - 2.00 - 1.00 - 1.00 - 2.00 8 -2.00 -1.00 -2.00 -1.00 -2.00 -1.00 - 2.00 1.00 2.00 - 1.00 - 3/2 - 5/2 -1.50 - 2.50 1.50 2.50 - 1.50 2.50 - 1.50 - 2.50 - 1.50 -2.50 -1.50 -2,50 9 -2.50 -1.50 $1/4 \sqrt{n^2 + 16}$ $1/4\sqrt{n^2+16}$ 1.60 1.60 1.80 1.80 2.02 2.02 1.41 1.32 1.41 10 1,12 1.12 1.25 1.25 1.32 $1/4\sqrt{n^2+33}$ $1/4 \sqrt{n^2 + 36}$ 2.12 2.12 2.30 2.30 1.95 1.95 1.58 1.58 1.68 1.68 1.73 1.73 1.80 1.80 11 $1/4 \sqrt{n^2 + 64}$ $1/4\sqrt{n^2+64}$ 2.66 2.66 2.50 2.50 12 2.06 2.06 2.14 2.14 2.18 2.18 2.24 2.24 2.36 2.36 $1/4 \sqrt{n^2 + 100}$ $1/4 \sqrt{n^2 + 100}$ 3.05 3.05 2.55 2,61 2.61 2.65 2.65 2.69 2.69 2.80 2.80 2.92 2.92 13 2.55 0 1.00 0 1.00 0 1.00 0 0 1.00 1.00 0 1.00 0 1.00 0 14 9/4 n 13,50 15.75 15.75 9/4 n 13,50 6.75 7.79 7.79 9.00 9.00 11-25 11.25 15 4.50 4.50 6.75 14.00 14.00 2 n 12,00 2 n 4.00 4.00 6.00 6.00 6.93 6.93 8.00 8.00 10.00 10.00 12,00 16 7/4 n 7/4 n 12.25 12.25 5.25 6.06 6.06 7.00 7.00 8.75 8.75 10,50 10.50 5.25 3.50 3.50 17 3/2 n 9.00 9.00 10.50 10.50 3/2 n 5.20 5,20 6.00 6.00 7.50 7.50 4.50 18 3.00 3.00 4.50 5/4 n 5/4 n 6.25 6.25 7.50 7.50 8.75 8.75 2.50 5.00 5.00 19 2.50 3.75 3.75 4.33 4.33 LENGTH COEFFICIENTS H H H H H H н 1/10 N 0.538516 0.632456 0.728011 0.360555 0.400000 0.447214 0.282843 1, 2, 3, 4, 5 1/5 0.200000 0,200000 0.200000 0.200000 0.200000 0.200000 0,200000 0.400000 2/5 0.400000 0.400000 0.400000 0.400000 0.400000 0.400000 3/5 0.600000 0.500000 0.600000 0.600000 0.600000 0.600000 8 0.600000 0.800000 4/5 0.800000 0.800000 0.800000 0.800000 9 0.800000 0.800000 $1/10\sqrt{n^2+16}$ 0.721110 0.806226 0.447214 0.500000 0.529150 0.565685 0.640312 10 $1/10 \sqrt{n^2 + 36}$ 0.846528 0.921954 0.721110 0.781025 0.692820 0.632456 0.670820 11 1/10 \n2 + 64 1.063015 0.871780 1.000000 12 0.824621 0.854400 0.894427 0.943398 $1/10 \sqrt{n^2 + 100}$ 1.058301 1.077033 1.118034 1.166190 1.220656 1.044031 13 1.019804 1.000000 1,000000 1,000000 1,000000 1,000000 1,000000 1,000000 14 1/10 n 0.600000 0.700000 0.300000 0.346400 0.400000 0.500000 15, 16, 17, 18, 19 0,200000 BOLT AND CONNECTOR LOADS BETWEEN MEMBERS FOR USE IN DETERMINING ANGL ES (IN DEGREES) $2/n = \tan a$ 22 18 16 34 30 27 1-15 45 $4/n = \tan b$ 39 34 30 53 49 45 10-16 63 $6/n = \tan c$ 60 56 50 45 41 11-17 72 63 $8/n = \tan d$ 63 58 53 49 67 12-18 76 69 55 $10/n = \tan \theta$ 68 64 59 13-19 79 73 71 90 - a 74 72 68 1- 6 45 56 60 63

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124

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11

18

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31

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135

90

8-10, 7-10

7-11, 8-11

8-12. 9-12

9-13,13-14

2-10

3-11

4-12

5-13

2-6, 3-7, 4-8, 5-9

6-15, 7-16, 8-17,

9-18, 14-19

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120

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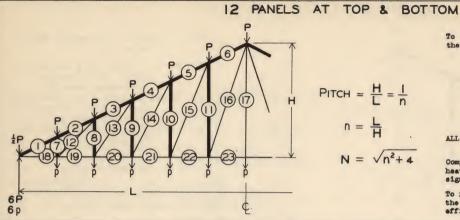
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106

90

PITCH = $\frac{H}{L} = \frac{I}{n}$

TRUSSES-STRESS COEFFICIENTS, LENGTH COEFFICIENTS, & ANGLES - TRIANGULAR PRATT



To find the stress in any member when the truss is loaded at:

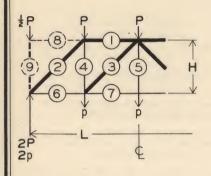
- TOP multiply the panel point load P by the stress coefficient under P
 BOTTOM multiply the panel point load P by the stress coefficient under P
 TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

бр					F.								effic	ient u	nder H.	
							VAL	UES	OF	n						
MEMBER		2	1	3	2	√ <u>3</u>								,	GENERAL	FORMULAS
	1 '	-		,						5		3		7		
			,			ST	RESS	s co	DEFFI	CIEN	TS					
	p	P	P	P	P	P	P	P	P	Р	P	p	P	P	P	9
1	-7.78	-7.78	-9.92	-9.92			-12,30				-17.39		-20.02		- 11/4 N	- 11/4 N
2 3	-7.78 -7.07	-7.78 -7.07	-9.92 -9.01	-9.92 -9.01	-11,00 -10,00	-11.00 -10.00			-14.81		-17.39 -15.81	-17.39 -15.81	-20.02		- 11/4 N - 5/2 N	= 11/4 N
4	-6.86	-6.36	-8.11	-8.11	- 9.00	- 9.00					-14.23	-14.23	-16.38		- 9/4 N	- 5/2 N - 9/4 N
5	-5.66	-5.66	-7.21	-7.21	- 8.00	- 8.00		- 8.94	-10,77	-10.77	-12.65	-12.65	-14.56	-14.56	- 2 N	- 2 H
6 7	-4.95	-4.95	-6.31 -1.00	-6.31	- 7.00 - 1.00	- 7.00	- 7.83 - 1.00	- 7.83	- 9.42		-11.07	-11.07	-12.74		- 7/4 N	- 7/4 N
8	-1.50	-0.50	-1.50	-0.50	- 1.50		- 1.50	- 0.50	- 1.50		- 1.00 - 1.50	0 - 0,50	- 1.00 - 1.50	0 - 0.50	- 1	0 - 1/2
9	-2.00	-1.00	-2.00	-1.00	- 2.00	- 1.00	- 2,00				- 2.00	- 1,00	- 2.00	- 1,00	- 2	- 1
10	-2.50	-1.50	-2.50 -3.00	-1.50 -2.00	- 2.50	- 1.50 - 2.00	- 2.50	- 1.50				- 1.50			- 5/2	- 3/2
12	1.12	1.12	1.25	1.25	1.32	1.32		1.41	1.60	1,60	1.80	1.80	2,02	2.02	-3 $1/4 \sqrt{n^2 + 16}$	$4 2$ $1/4 \sqrt{n^2 + 16}$
15	1.58	1.58	1.68	1.68	1.73	1.78	1.80	1.80	1.95	1.95	2.12	2.12	2.30	2.30	$1/4\sqrt{n^2+36}$	$1/4\sqrt{n^2+36}$
14	2.06	2.06	2.14	2.14	2.18	2.18	2.24	2.24	2.36	2,36	2,50	2.50	2.66 3.05	2,66 3,05	$1/4\sqrt{n^2+64}$ $1/4\sqrt{n^2+100}$	$1/4 \sqrt{n^2 + 64}$ $1/4 \sqrt{n^2 + 100}$
16	3.04	3.04	3.09	3.09	3.12	3.12	3.16	3.16	3.25	3,25		3.35	3.47	3.47	$1/4 \sqrt{n^2 + 144}$	$1/4 \sqrt{n^2 + 100}$ $1/4 \sqrt{n^2 + 144}$
17	0	1,00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1,00	0	1
18	5.00	5.50	8.25 7.50	7.50	9,52	9,52	10.00	10,00	13.75	13,75	16,50	16,50	19,25	19,25	11/4 n	11/4 n
20	4.50	4.50	6.75	6.75	7.79	7.79	9.00	9,00	11.25	12.50	15.00	15,00	17.50	17.50	5/2 n 9/4 n	5/2 n 9/4 n
21	4.00	4.00	5,00	6,00	6.93	6.93	8,00	8.00	10,00	10,00	12.00	12.00	14,00	14.00	2 n	2 n
22 28	3.50	3.50 3.00	5.25 4.50	5.25 4.50	6.06 5.20	6.06 5.20	7,00	7.00	8.75	8.75	10.50	10.50	12.25	12,25	7/4 n	7/4 n
	0.00	3,00	4.50	94,00	5,20		NGTH	6.00	7.50 DEFFI	7.50	9.00	9,00	10,50	10.50	3/2 n	3/2 n
	1 +	1	F	1												
1, 2, 3, 4, 5, 6	0,2357	-	0.3004		0.8335		0.372		0.4400	_	H		Н		<u> </u>	1.
7	0.1666		0.1666		0.1666		0.1666		0.4487		0.5270		0.6066		1/12 N 1/6	
8	0.3333		0.3333		0.3333	33	0.3333	338	0.3333	333	0.3333		0.8333		1/3	
10	0.6666		0.5000	-	0.5000		0.5000		0.6666	-	0.5000		0.5000		1/2	
11	0.8338		0.8333		0.8333		0.8333	-	0.8555		0.6666		0.6666		2/8 5/6	
12	0.3726		0.4166		0.4409		0.4714	105	0.5335	94	0,6009	25	0.6718		1/12 √π	+ 16
18	0.5270		0.5590	-	0.5773	-	0.6009		0.6508		0.7071	-	0.7682	-	1/12 √n	
15	0.8498		0.8700		0.8819		0.8975		0.9316		0.8333		1.0172		1/12 √n ²	
16	1.0137		1.0307		1.0408		1.0540	98	1.0855	33	1.1180	34	1.1577	04	1/12 √n³	
18,19,20,21,22,25	0.1666		0.2500	No.	0,2886		1,0000		1,0000		1,0000		1,0000		1	
ANGLES (IN DEG			TWE		MEMB		0,3333 FOR	USE	0.4166 IN		0.50 00 ERMIN		0.6833 BOL		1/12 n ND CONNEC	TOR LOADS
1-18, 2-12	45	, 30	84		80		27	032	22	021	18	411/40	16	, A	2/n = t	
12-19 13-20	63 72		58 68		49		45 56		39		34		30		4/n = t	an b
14-21	76	1	69 73		67		65		50 58		46 53		41		6/n = t 8/n = t	an d
15-22 16-23	80	76 79 80		-	71		68 72		63 67		59 65		55 60		$\frac{10/n = t}{12/n = t}$	
1- 7 7-12, 8-12	45 27	45 27			60 41		63 45		68 51		72 56		74 60		90 - 8 90 - b	
8-13, 9-13	18		27 27		30		34		40		45		49		90 - 0	
9-14, 10-14 10-15, 11-15	11		21 17 14		25		27		32 27		37		41 35		90 - d	
11-16, 16-17	10	10 18			16 19		18 18		23 17		27 16		30 14	İ	90 - f	
5-15	27		19 29 35		30		29		28		27		25		0 - a	
4-14 5-15	34	31			37		36 41		36 41		35 41		33 39		d = 8	
6-16 2-7, 3-8, 4-9,	35 135		124		44		45		45		45		44		£ = a	
2-7, 3-8, 4-9, 5-10, 6-11 7-18, 8-19, 9-20, 10-21, 11-22, 17-25	90		90		120 90		90		90		108		106		90 + a	
10-21, 11-22, 17-25			30		90		90		90		90		90		90	

4 PANELS AT TOP & BOTTOM



$$n = \frac{L}{H}$$

$$N = \sqrt{n^2 + 16}$$

To find the stress in any member when the truss is loaded at:

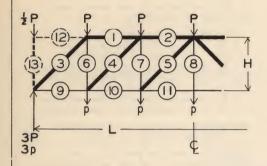
- 1. TOP multiply the panel point load P by the stress coefficient under P
- BOTTOM multiply the panel point load ρ by the stress coefficient under ρ
- TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

14514858							VAL	UES	OF	n					GENERAL	FORMULAS
MEMBER		7		8		9	1	0	1	1	1	2	1	3	GENERAL	TORMOLAS
						5	TRES	S C	OEFFI	CIENT	S					
	P	P	P	р	Р	р	P	р	Р	р	Р	р	P	р	Р	р
1	-2.63	-2.63	-3.00	-3,00	-3.38	-3.38	-3.75	-3.75	-4.13	-4.13	-4.50	-4.50	-4.88	-4.88	- 3/8 n	- 3/8 n
2	-5.02	-3.02	-3.35	-3.35	-3.69	-3.69	-4.04	-4.04	-4.39	-4.39	-4.74	-4.74	-5.10	-5.10	- 3/8 N	- 3/8 N
3	-1.01	-1.01	-1.12	-1.12	-1.23	-1.23	-1.35	-1.35	-1.46	-1.46	-1.58	-1.58	-1.70	-1.70	- 1/8 N	- 1/8 N
4	0,50	1.50	0.50	1.50	0.50	1,50	0.50	1.50	0.50	1.50	0.50	1.50	0,50	1.50	1/2	3/2
5	0	1.00	0	1.00	0	1.00	0	1,00	0	1,00	0	1.00	0	1.00	0	1
6	2.63	2.63	3.00	3.00	3.38	3,38	3.75	3.75	4.13	4.13	4.50	4.50	4.88	4.88	3/8 n	3/8 n
7	3,50	3.50	4.00	4.00	4.50	4.50	5.00	5,00	5.50	5.50	6,00	6.00	6,50	6.50	1/2 n	1/2 n
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	-0.50	0	-0.50	0	-0.50	0	-0 _• 50	0	-0.50	0	-0.50	0	-0.50	0	- 1/2	0
						L	ENGTH	1 00	EFFIC	IENTS						
	1	1	H	1	Н	1	Н		Н		Н		Н		1	Н
Horizontal	1.750	0000	2,000	0000	2.250	0000	2,500	0000	2.750	0000	3.000	0000	3.250	0000	1	/4 n
Diagonal	2.015	564	2.236	8068	2.462	214	2.692	582	2.926	3175	3.162	2278	3,400	368	1	/4 N
Vertical	1.000	0000	1,000	0000	1.000	0000	1,000	0000	1.000	0000	1,000	0000	1,000	0000	1	
ANGLES (N DE	GREES	s) BE	TWEE	N ME	MBER	S FOR	USE	IN I	DETER	MININ	G BC	LT A	ND (CONNECTOR	LOADS
Between diagonal and horizontal members	30	0	21	7	24	4	22	2	20	0	10	8	1	7	4/x	= tan a
Between diagonal and vertical members	60		68	3	60	6	68	3	70	0	7:	2	73	3	90) - a
Between vertical and horizontal members	90		90		90	0	90	0	94	0	90	0	90	0		90

6 PANELS AT TOP & BOTTOM



$$n = \frac{L}{H}$$

$$N = \sqrt{n^2 + 36}$$

To find the stress in any member when the truss is loaded at:

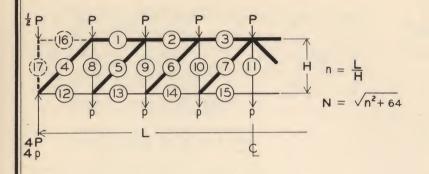
- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load ρ by the stress coefficient under ρ
- 3. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VA	LUES	OF	n					GENERAL	FORMULAS
WE-NOCH		7		8		9	1	0	-	1	13	2	1.	3	GENERAL	FORMULAS
							STRE	ss c	OEFFI	CIENT	S					
	P	р	P	р	P	p	P	р	P	р	Р	р	Р	р	Р	Р
1	-2.92	-2.92	-3,33	-3.33	-3.75	-3.75	-4.17	-4.17	-4.58	-4.58	-5.00	-5.00	-5.42	-5.42	- 5/12 n	- 5/12 n
2	-4.67	-4.67	-5.33	-5.33	-6.00	-6,00	-6.67	-6.67	-7.33	-7.33	-8.00	-8.00	-8.67	-8.67	- 2/3 n	- 2/3 n
3	-3.84	-3.84	-4.17	-4.17	-4.51	-4.51	-4.86	-4.86	-5.22	-5.22	-5.59	-5.59	-5.97	-5.97	- 5/12 N	- 5/12 N
4	-2.30	-2.30	-2.50	-2,50	-2.70	-2.70	-2.92	-2.92	-3.13	-3.13	-3.35	-3.35	-3.58	-3.58	- 1/4 N	- 1/4 N
5	-0.77	-0.77	-0.83	-0.83	-0.90	-0.90	-0.97	-0.97	-1.04	-1.04	-1.12	-1.12	-1.19	-1.19	- 1/12 N	- 1/12 N
6	1.50	2.50	1.50	2.50	1.50	2.50	1.50	2.50	1.50	2.50	1.50	2,50	1.50	2.50	3/2	5/2
7	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	1/2	3/2
8	0	1.00	0	1,00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1
9	2.92	2.92	3,33	3.33	3.75	3.75	4.17	4.17	4.58	4.58	5.00	5.00	5.42	5.42	5/12 n	5/12 n
10	4.67	4.67	5.33	5.33	6.00	6.00	6.67	6.67	7.33	7.33	8,00	8.00	8.67	8.67	2/3 n	2/3 n
11	5.25	5.25	6.00	6.00	6.75	6.75	7.50	7.50	8.25	8.25	9.00	9.00	9.75	9.75	3/4 n	3/4 n
12 13	-0.50	0	0 -0.50	0	0 -0,50	0	0 -0.50	0	0 -0.50	0	0 -0.50	0	0-0.50	0	0 - 1/2	0
	1 -000		-0.00		-0,00		ENGT		DEFFIC				-0.00		/	
		Н		1		1	-		Н		Н		Н	-		Н
			-													
Horizontal	1.166	6667	1.333	333	1.500	0000	1.666	3667	1.833	333	2.000	000	2.166	667	1	/6 n
Diagonal	1,536	5591	1.666	667	1.802	776	1.943	651	2.088	327	2.236	068	2.386	304	1	/6 N
Vertical	1.000	0000	1,000	000	1.000	0000	1.000	0000	1,000	000	1.000	000	1,000	000	1	
ANGLES	(IN DE	GREES	BE	TWEE	N ME	MBERS	FOR	USE	IN C	ETER	MININ	G BO	LT A	ND CO	NNECTOR	LOADS
Between diagonal and horizontal members	43	ı	37		34		31	ı	29		27		25		6/n	= tan a
Between diagonal and vertical members	49	,	53		56	3	59	9	6]		63		65		90) - a
Between vertical and horizontal members	90		90		90		90		90		90		90			90

8 PANELS AT TOP & BOTTOM



To find the stress in any member when the truss is loaded at:

- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load p by the stress coefficient under p
- 3. TOP & BOTTOM add stresses determined in 1 and 2 above

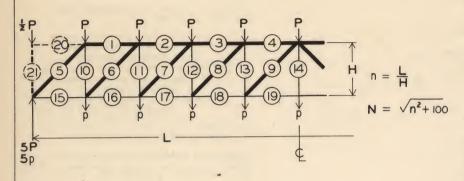
ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VAL	LUES	OF	n					GENERAL	FORMULAS
MEMBER		7		8		9 .	1	0		1	1	2	1:	3	CENTERNE	TOMMOLA
							STRES	ss c	OEFFI	CIENT	s					
	P	Р	Р	р	Р	р	P	Р	P	р	P	р	P	р	P	р
1	-3,06	-3.06	-3.50	-3.50	-3.94	-3.94	-4.38	-4.38	- 4.81	- 4.81	- 5.25	- 5.25	- 5.69	- 5.69	- 7/16 n	- 7/16 n
2	-5.25	-5.25	-6.00	-6.00	-6.75	-6.75	-7.50	-7.50	- 8.25	- 8.25	- 9.00	- 9.00	- 9.75	- 9.75	- 3/4 n	- 3/4 n
3	-6.56	-6.56	-7.50	-7.50	-8.44	-8.44	-9.38	-9.38	-10.31	-10.31	-11.25	-11.25	-12.19	-12.19	- 15/16 n	- 15/16 n
4	-4.65	-4.65	-4.95	-4.95	-5.27	-5.27	-5.60	-5.60	- 5.95	- 5.95	- 6.31	- 6.31	- 6.68	- 6.68	- 7/16 N	- 7/16 N
5	-3.32	-3.32	-3.54	-3.54	-3.76	-3.76	-4.00	-4.00	- 4.25	- 4.25	- 4.51	- 4.51	- 4.77	- 4.77	- 5/16 N	- 5/16 N
6	-1.99	-1.99	-2.12	-2.12	-2.26	-2.26	-2.40	-2.40	- 2.55	- 2.55	- 2.70	- 2.70	- 2.86	- 2.86	- 3/16 M	- 3/16 N
7	-0.66	-0.66	-0.71	-0.71	-0.75	-0.75	-0.80	-0.80	- 0.85	- 0.85	- 0.90	- 0.90	- 0.95	- 0.95	- 1/16 N	- 1/16 N
8	2.50	3.50	2.50	3.50	2.50	3.50	2.50	3.50	2.50	3.50	2.50	3.50	2.50	3.50	5/2	7/2
9	1.50	2.50	1.50	2.50	1.50	2.50	1.50	2.50	1.50	2.50	1.50	2,50	1,50	2.50	3/2	5/2
10	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1,50	0.50	1.50	0.50	1.50	1/2	3/2
11	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1,00	0	1
12	3.06	3.06	3.50	3.50	3.94	3.94	4.38	4.38		4.81	-	5.25	5.69	5.69	7/16 n	7/16 n
13	5.25	5.25	6.00	6,00	6.75	6.75	7.50	7.50		8,25	9,00	9,00	9.75	9.75	3/4 n	3/4 n
14	6.56	6.56	7.50	7.50	8.44	8,44	9.38	9.38		10.31	11.25	11.25	12.19	12.19	15/16 n	15/16 n
15	7.00	7.00	8.00	8.00	9.00	9.00	10.00	10.00		11.00		12,00	13.00	13.00	n	0
16	0	0	0	0	0	0	0	0	0	0	00.50	0	0 - 0.50	0	0 - 1/2	0
17	-0.50	0	-0 _• 50	0	-0 ₋ 50	0	-0.50	0	- 0.50			0	- 0.80	0	- 1/2	
						L	ENGT	H C	OEFFI							
		Н	H	1	H	1	H	1	H	1	H	1	Н			Η
Horizontal	0.875	000	1,000	000	1.125	000	1.250	0000	1.37	5000	1,500	0000	1.628	5000	1/	'8 n
Diagonal	1.328	768	1,414	214	1.505	199	1.600	781	1.70	0184	1,80	2776	1.908	3042	1/	/8 N
Vortical	1.000	000	1.000	000	1.000	0000	1,000	0000	1.000	0000	1.000	0000	1.000	0000	1	
ANGLES	IN DE	GREE	s) BE	TWEE	N ME	MBER	S FOR	USE	. IN	DETER	RMININ	IG BC	LT A	AND C	ONNECTOR	LOADS
etween diagonal and rizontal members	49		45		42		39)	30	3	34	4	32	2	8/n	= tan a
detween diagonal and mertical members	41		45		48		53	ı	5	4	56	6	58	3	90	- a
detween vertical and prizontal members	90)	90		90		90)	90)	96	0	90		8	00

TRUSSES -STRESS COEFFICIENTS, ANGLES FLAT HOWE LENGTH COEFFICIENTS,

10 PANELS AT TOP & BOTTOM



To find the stress in any member when the truss is loaded at:

- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM miltiply the panel point load p by the stress coefficient under p

 5. TOP & BOTTOM add stresses determined in 1 and 2 above

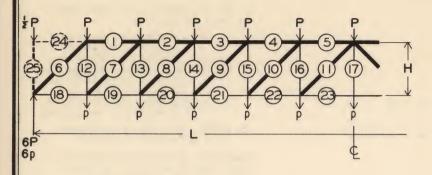
ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

To find the length of any member, multiply the height of truss \boldsymbol{H} by the length coefficient under \boldsymbol{H} .

MEMBER							VA	LUES	OF	n					(SENERA	L FORMULAS
MEMBER		7		8		9		10	ı	1	13	2	13	3			
							STRE	ss c	OEFFI	CIENT	S						
	P	Р	Р	Р	P	Р	P	P	Р	р	Р	р	Р	р		Р	Р
1	-3.15	-3.15	-3.60	-3.60	- 4.05	- 4.05	- 4.50		- 4.95							9/20 n	- 9/20 n
2	-5.60	-5.60	-6.40	-6.40	- 7.20		- 8.00		- 8.80							4/5 n	- 4/5 n
3	-7.35	-7.35	-8.40	-8.40	- 9.45				-11.55							1/20 n	- 21/20 n
4	-8.40	-8.40	-9.60		-10.80				-13.20							6/5 n	- 6/5 n
5	-5.49	-5.49	-5.76	-	- 6.05	- 6.05				-		- 7.03			-	9/20 N	- 9/20 H
6	-4.27	-4.27	-4.48		- 4.71	- 4.71	- 4.95					- 5.47	- 5.74			7/20 N	- 7/20 N
7	-3.05	-3.05	-3.20		- 3.36	- 3.36		- 3.54	- 3.72	- 3.72	- 3.91	- 3.91		- 4.10		1/4 N	- 1/4 N
8	-1.83	-1.83	-1.92		- 2.02	- 2.02	- 2.12	- 2.12	- 2.23	- 2.23	- 2.34	- 2.34	- 2.46			3/20 N	- 3/20 N
9	-0.61	-0.61	-0.64	-0.64		- 0.67	- 0.71	- 0.71	- 0.74	- 0.74	- 0.78	- 0.78	- 0.82			1/20 N	- 1/20 N
10	3,50	4.50	3.50	4.50	3.50	4.50 3.50	3.50 2.50		3.50	4.50 3.50	3.50 2.50	4,50 3,50	3.50 2.50			7/2 5/2	7/2
11	2.50	3.50	2.50	3.50					1,50	2.50		2.50				3/2	5/2
12	1.50	2.50	1.50 0.50	2.50		2.50		-	0.50	1.50		1.50				1/2	3/2
13	0.50	1.50	0.50	1.00	0.50	1.00	0.50	1.00	0	1.00	0	1.00		1.00		0	1
15	3.15	3.15	3,60	3.60		4.05	-		4.95	4.95	-	5.40				9/20 n	9/20 n
16	5.60	5,60	6.40	6.40		7.20			8,80	8,80		9,60				4/5 n	4/5 n
				8.40	9.45	9.45	10.50		11.55	11.55	12.60	12.60				1/20 n	21/20 n
17	7.35 8.40	7.35 8.40	9,60	9.60	10.80	10.80	12.00		13.20	13.20	14.40	14.40	15.60		-	6/5 n	6/5 n
19	8.75	8.75	10.00	10.00	11.25	11.25	12,50		13.75	13.75	15.00	15.00				5/4 n	5/4 n
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
21	-0.50	0	-0.50	0	-0.50	0	- 0.50	_	- 0.50	0	- 0.50	0	- 0.50			1/2	0
	1						LENGT	TH C	OEFFI	CIENT	S						
	1	Н		Н		Н		Н	H	4	H	1	F	4			Н
Horizontal	0,700		0,800		0.900		1.000		1,100		1,200	2000	1.300	2000		1.	/10 n
Diagonal	1,220	656	1.280	625	1.345	362	1.41	4214	1.486	607	1.562	050	1.640	0122		1/	/10 H
Vertical	1,000	000	1.000	000	1,000	0000	1.000	0000	1,000	0000	1,000	0000	1.000	0000		1	
ANGLES	(IN DI	GREE	s) B	ETWE	EN M	EMBE	RS FC	R US	E IN	DETE	RMINI	NG E	OLT	AND	CONN	ECTOR	LOADS
tween diagonal																	
and	55		51		48		45		42		40		38			10/n	= tan a
izontal members																	
tween diagonal																	
and	35		39		42		45		48		50		52			90	- A
rtical members																	
tween vertical					-												
and	90		90		90		90		90		90		90			9	0

12 PANELS AT TOP & BOTTOM



n = L

 $N = \sqrt{n^2 + 14.4}$

To find the stress in any member when the truss is loaded at:

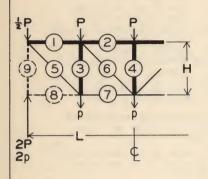
- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load p by the stress coefficient under p
- 5. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER				1			VA	LUES	OF	n					CENEDAL	FORMULAS
MEMBER		7		8		9		10	1	1	1	2	1.	3	GENERAL	PURMULAS
							STRE	SS C	OEFF	CIENT	S					-
	P	Р	P	р	P	р	P	р	Р	р	Р	р	Р	р	Р	р
1	- 3.21	- 3.21	- 3.67	- 3.67	- 4.13	- 4.13	- 4.58	- 4.58	- 5.04	- 5.04	- 5.50	- 5.50	- 5.96	- 5.96	- 11/24 n	- 11/24 n
2	- 5.85	- 5.86	- 6.67	- 6.67	- 7.50	- 7.50	- 8.33	- 8.33	- 9.17	- 9.17	-10.00	-10.00	-10.83	-10.83	- 5/6 n	- 5/6 n
3	- 7.88	- 7.88	- 9.00	- 9.00	-10.13	-10.13	-11.25	-11.25	-12.38	-12.38	-13.50	-13.50	-14.63	-14.63	- 9/8 n	- 9/8 n
4	- 9.33	- 9.33	-10.67	-10.67	-12.00	-12.00	-13.33	-13.33	-14.67	-14.67	-16.00	-16.00	-17.33	-17.33	- 4/3 n	- 4/3 n
5	-10.21	-10.21	-11.67	-11.67	-13.13			-14.58	-16.04	-16.04	-17.50	-17.50	-18.96	-18.96	- 35/24 n	- 35/24 n
6	- 6.37	- 6.37	- 6.61	- 6.61			- 7.16		- 7.46	- 7.46	- 7.78	- 7.78	- 8.11	- 8.11	- 11/24 N	- 11/24 N
7	- 5.21	- 5.21	- 5.41	- 5.41			- 5.86		- 6.10	- 6.10	- 6.36	- 6.36	- 6.63	- 6.63	- 3/8 N	- 3/8 N
8	- 4.05	- 4.05	- 4.21	- 4.21			- 4.56	- 4.56	- 4.75	- 4.75	- 4.95	- 4.95	- 5.16	- 5.16	- 7/24 N	- 7/24 N
'9	- 2.89	- 2.89	- 3.00		- 3.13		- 3.25	- 3.25		- 3.39	- 3.54	- 3.54		- 3.69	- 5/24 N	- 5/24 N
10	- 1.74	- 1.74	- 1.80	- 1.80		- 1.88		- 1.95		- 2.03	- 2.12	- 2.12		- 2.21	- 1/8 N	- 1/8 N
11	- 0.58	- 0.58	- 0.60	- 0.60		- 0,63	- 0.65	- 0.65		- 0.68	- 0.71	- 0.71	- 0.74	- 0.74	- 1/24 N	- 1/24 N
12	4.50	5.50	4.50	5.50	4.50	5.50	4.50	5.50	4.50	5.50	4.50	5.50	4.50	5.50	9/2	11/2
13	3.50	4.50	3.50	4.50	3.50	4.50	3.50	4.50	3.50	4.50	3.50	4.50	3.50	4.50	7/2	9/2
14	2.50	3.50	2.50	3.50	2.50	3.50	2.50	3.50	2.50	3.50	2.50	3.50	2.50	3.50	5/2	7/2
16	0.50	2.50	0.50	2.50	0.50	2.50	1.50	2.50	1.50	2.50	1.50	2.50	1.50	2.50	3/2	6/2
17	0.50	1.00	0.50	1.00	0.50	1.00	0.50	300	0.50	1.00	0.50	1.50	0.50	1.50	1/2	3/2
18	3,21	3.21	3,67	3,67	4.13	4.13	4.58	4.58	5.04	5.04	5.50	5.50	5.96	1.00	11/24 n	1 11/24 n
19	5.83	5.83	6,67	6.67	7.50	7.50	8.33	8.33	9.17	9.17	10.00	10.00	10.83			1
20	7.88	7.88	9,00	9.00	10.13	10.13	11.25		12.38	12.38	13.50	13.50	14.63	10.83		•5/6 n 9/8• n
21	9.33	9.33	10.67	10.67	12.00	12.00	13,33	11,25	14.67	14.67	16.00	16.00	17.33	17.33	9/8 n 4/3 n	4/3 n
22	10.21	10.21	11.67	11.67	13.13	13.13	14.58	14.58	16.04	16.04	17.50	17.50	18.96	18.96		
23	10.50	10.50	12.00	12.00	13.50		15.00	15.00		16.50					35/24 n 3/2 n	35/24 n 3/2 n
24	0	0	0	0	0	13.50	0	0	16.50	0	18.00	18.00	19.50	19.50	3/2 n	0
25	- 0.50	0	- 0.50	0	- 0.50	0,	- 0.50	0		0	- 0.50	0	- 0450	0	- 1/2	0
20	- 0.50	0	- 0.60	. 0	- 0.50		ENGT		- 0.50 OEFFIC			0	- 0150	0	- 1/2	1 0
		н		н		1	- LNOI		-		Н		Н			1
Horizontal	0.583		0.666		0.750		0.833		0.916		1,000		1.083			12 n
															· · · · · · · · · · · · · · · · · · ·	
Diagonal	1.157	704	1.201	1850	1.250	0000	1.301	708	1.356	568	1.414	214	1.474	1317	1/	12 N
Vertical	1.000	0000	1.000	0000	1.000	000	1.000	0000	1.000	000	1.000	0000	1.000	0000	1	
ANGLES	(IN DE	GREE	s) BE	TWEE	N ME	MBER	S FOF	USE	IN	DETER	RMININ	G BC	LT A	AND C	ONNECTOR L	OADS
etween diagonal and	60		56	. (53		50		47		45		43		12/n :	= tan a
risontal members																
etween diagonal and	30		34		37		40		43		45		47		90	- a.
ertical members																
etween vertical and	90		90		90		90		90		90		90		9	0
rizontal members																

4 PANELS AT TOP & BOTTOM



$$n = \frac{L}{H}$$

$$N = \sqrt{n^2 + 16}$$

To find the stress in any member when the truss is loaded at:

- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load ρ by the stress coefficient under ρ
- 5. TOP & BOTTOM add stresses determined in 1 and 2 above

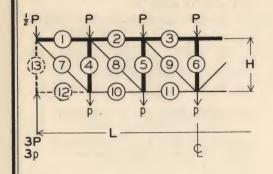
ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

	_															
MEMBER							VAL	LUES	OF	n					GENERAL	FORMULAS
		7	8	3	9	9	10	0	1	1	1	2	13	3		
						:	STRES	ss c	OEFFI	CIENT	S					
	P	P	P	р	Р	р	P	р	Р	р	Ь,	р	P	р	Р	р
1	-2.63	-2.63	-3.00	-3.00	-3.38	-3,38	-3.75	-3.75	-4.13	-4.13	-4.50	-4.50	-4.88	-4.88	- 3/8 n	- 3/8 n
2	-3.50	-3.50	-4.00	-4.00	-4.50	-4.50	-5.00	-5.00	-5.50	-5.50	-6.00	-6,00	-6.50	-6,50	- 1/2 n	- 1/2 n
3	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	-1.50	-0,50	-1.50	-0.50	-1.50	-0.50	- 3/2	- 1/2
4	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1.00	0	- 1	0
5	3.02	3.02	3.35	3.35	3.69	3,69	4.04	4.04	4.39	4.39	4.74	4.74	5.10	5.10	3/8 N	3/8 N
6	1.01	1.01	1.12	1.12	1.23	1.23	1.35	1.35	1.46	1.46	1.58	1.58	1.70	1.70	1/8 N	1/8 N
7	2,63	2.63	3.00	3,00	3.38	3.38	3.75	3,75	4.13	4.13	4.50	4.50	4.88	4.88	3/8 n	3/8 n
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	-2,00	0	-2.00	0	-2.00	0	-2.00	0	-2.00	0	-2.00	0	-2.00	0	- 2	0
						L	ENGTI	н сс	EFFIC	IENTS	3					
		Н	1	1	H	1	Н		Н		Н		Н			Н
Horizontal	1.750	0000	2.000	000	2.250	000	2,500	000	2,750	000	3,000	0000	3,250	000	1	/4 n
Diagonal	2.018	5564	2.236	068	2.462	214	2.692	582	2,926	175	3.162	278	3.400	368	1	/4 N
Vertical	1,000	0000	1,000	000	1,000	000	1,000	000	1,000	000	1,000	000	1,000	000	1	
ANGLES	IN DE	GREES	BE	TWEE	N MEI	MBERS	FOR	USE	IN E	ETER	MININ	G BO	LT A	ND (CONNECTOR	LOADS
etween horizontal and diagonal members	30)	27		24		22		20		18		17		4/n	= tan a
Between diagonal and vertical members	60)	63		66		68		70		72		73		90	- a
Between vertical and orizontal members	90)	90		90		- 90		90		90		90			90

FLAT TRUSSES -STRESS COEFFICIENTS, LENGTH COEFFICIENTS, ANGLES

PANELS AT TOP & BOTTOM



$$n = \frac{L}{H}$$

$$N = \sqrt{n^2 + 36}$$

To find the stress in any member when the truss is loaded at:

- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load p by the stress coefficient under p

 5. TOP & BOTTOM add stresses determined in 1 and 2 above

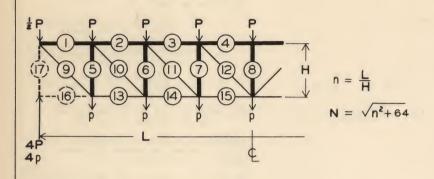
ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VAI	LUES	OF	n					GENERAL	FORMULAS
WEINDER		7		8	(9	ŀ	0	1	1	12	2	13	3		
							STRES	SS C	OEFFI	CIENT	S					
	P	Р	P	р	P	Р	P	р	Р	р	Р	р	Р	р	Р	р
1	-2.92	-2.92	-3.33	-3.33	-3.75	-3.75	-4.17	-4.17	-4.58	-4.58	-5.00	-5.00	-5.42	-5.42	- 5/12 n	- 5/12 n
2	-4.67	-4.67	-5.33	-5,33	-6.00	-6.00	-6.67	-6.67	-7.33	-7.33	-8.00	-8.00	-8.67	-8.67	- 8/12 n	- 8/12 n
3	-5.25	-5.25	-6.00	-6.00	-6.75	-6.75	-7.50	-7.50	-8.25	-8.25	-9.00	-9.00	-9.75	-9.75	- 9/12 n	- 9/12 n
4	-2.50	-1.50	-2.50	-1,50	-2.50	-1.50	-2.50	-1.50	-2.50	-1.50	-2.50	-1.50	-2.50	-1.50	- 5/2	- 3/2
5	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	- 3/2	- 1/2
6	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1,00	0	- 1	0
7	3.84	3.84	4.17	4.17	4.51	4.51	4.86	4.86	5.22	5.22	5,59	5.59	5.97	5.97	5/12 N	5/12 N
8	2,30	2,30	2.50	2,50	2.70	2.70	2.92	2.92	3.13	3.13	3.35	3.35	3.58	3.58	3/12 N	3/12 N
9	0.77	0.77	0.83	0.83	0.90	0.90	0,97	0.97	1.04	1.04	1.12	1.12	1.19	1.19	1/12 N	1/12 N
10	2.92	2.92	3.33	3.33	3.75	3.75	4.17	4.17	4.58	4.58	5.00	5.00	5.42	5.42	5/12 n	5/12 n
11	4.67	4.67	5,33	5.33	6,00	6.00	6,67	6,67	7.33	7.33	8,00	8.00	8,67	8,67	8/12 n	8/12 n
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	-3.00	0	-3.00	0	-3.00	0	-3.00	0	-3,00	0	-3.00	0	-3.00	0	- 3	0
						L	ENGT	1 CC	EFFIC	IENTS						
	1	4	H	1	1	1	Н		Н		Н		Н			Н
Horizontal	1,166	667	1.333	333	1.500	0000	1,666	667	1.833	333	2.000	000	2.166	667	1	1/6 n
Diagonal	1.536	591	1,666	667	1.802	776	1.943	651	2.088	327	2.236	068	2,386	304	1	1/6 N
Vertical	1,000	0000	1.000	0000	1.000	0000	1.000	0000	1.000	000	1.000	000	1,000	0000	1	ı
ANGLES (N DE	GREES) BE	TWEE	N MEI	MBERS	FOR	USE	IN D	ETER	MININ	в во	LT A	ND C	ONNECTOR	LOADS
etween horizontal and diagonal members	43		37		34		31		29		27		2.5	0	6/r	n = tan a
Between diagonal and vertical members	49).	53		56	3	59		61		63		65		90) - a
Between vertical and orizontal members	90)	90)	90)	90)	90		90		90)		90

TRUSSES - STRESS COEFFICIENTS, LENGTH COEFFICIENTS, FLAT PRATT & ANGLES

8 PANELS AT TOP & BOTTOM



To find the stress in any member when the truss is loaded at:

- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load p by the stress coefficient under p

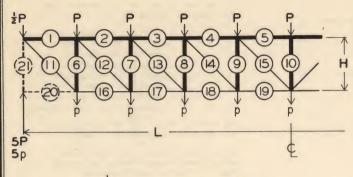
 5. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VA	LUES	OF	n					GENERAL	FORMULAS
, member		7	8	3	6			10	1	1	1	2	1	3	OLIVERAL	FORMULAS
			-				STRE	ss (COEFF	ICIEN.	TS					
	P	P	P	р	P	P	P	р	P	Р	P	р	Р	Р	Р	Р
i	-3,06	-3.06	-3.50	-3.50	-3,94	-3.94	- 4.38	- 4.38	- 4.81	- 4.81	- 5.25	- 5.25	- 5,69	- 5.69	- 7/16 n	- 7/16 n
2	-5,25	-5.25	-6.00	-6,00	-6,75	-6,75	- 7.50	- 7,50	- 8.25	- 8.25	- 9.00	- 9.00	- 9.75	- 9.75	- 12/16 n	- 12/16 n
, 3	-6.56	-6,56	-7.50	-7.50	-8,44	-8.44	- 9.38	- 9.38	-10.31	-10.31	-11.25	-11,25	-12.19	-12.19	- 15/16 n	- 15/16 n
4	-7.00	-7.00	-8.00	-8.00	-9.00	-9.00	-10.00	-10.00	-11.00	-11.00	-12.00	-12.00	-13.00	-13.00	- n	- n
5	-3.50	-2.50	-3.50	-2.50	-3.50	-2,50	- 3.50	- 2.50	- 3.50	- 2.50	- 3.50	- 2.50	- 3.50	- 2.50	- 7/2	- 5/2
6	-2.50	-1.50	-2.50	-1.50	-2.50	-1.50	- 2.50	- 1.50	- 2.50	- 1.50	- 2.50	- 1.50	- 2.50	- 1.50	- 5/2	- 3/2
7	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 3/2	- 1/2
8	-1,00	0	-1.00	0	-1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1	0
9	4.65	4.65	4.95	4,95	5.27	5.27	5,60	5,60	5.95	5.95	6,31	6.31	6,68	6.68	7/16 N	7/16 N
10	3,32	3,32	3,54	3,54	3.76	3.76	4,00	4,00	4.25	4.25	4.51	4.51	4.77	4.77	5/16 N	5/16 N
11	1,99	1,99	2.12	2,12	2.26	2.26	2.40	2.40	2.55	2.55	2.70	2.70	2.86	2.86	3/16 N	3/16 N
12	0.66	0.66	0.71	0.71	0.75	0.75	0.80	0.80	0.85	0.85	0.90	0,90	0.95	0.95	1/16 N	1/16 N
13	3.06	3.06	3,50	3.50	3.94	3.94	4.38	4.38	4.81	4.81	5,25	5,25	5,69	5,69	7/16 n	7/16 n
14	5,25	5.25	6.00	6,00	6,75	6.75	7.50	7.50	8,25	8.25	9.00	9.00	9.75	9.75	12/16 n	12/16 n
15	6,56	6.56	7.50	7.50	8.44	8.44	9.38	9.38	10.31	10,31	11.25	11.25	12.19	12.19	15/16 n	15/16 n
16	0	0	Ó	0	0	0	0	0	0	0	0	0	0	0	0	0
17	-4.00	0	-4.00	0	-4.00	0	- 4,00	0	- 4.00	0	- 4.00	0 -	- 4.00	0	- 4	0
	,					LE	NGTH	CO	EFFICI	ENTS						
	Н		Н		Н		Н		Н		Н		Н		F	1
Horisontal	0.875	000	1,0000	000	1.1250	000	1.250	0000	1.375	000	1,500	0000	1.625	000	1/	8 n.
Diagonal	1.328	768	1.4142	214	1.505	199	1.600	781	1.700	184	1.802	776	1.908	042	1/1	B N
Vertical	1.000	000	1.0000	000	1.0000	000	1,000	0000	1.000	000	1.000	000	1,000	000	1	
ANGLES	(IN DE	GREES	BE	TWEE	N MEI	MBER	S FOF	USE	IN I	DETER	RMININ	G BC	LT A	ND C	ONNECTOR L	OADS
ween horizontal and agonal members	49		45		42		39		36		34		32		8/n =	tan a
etween diagonal and ertical members	41		45		48		51		54		56		58		90 -	a
tween vertical and izontal members	90		90		90		90		90		90		90		90	

10 PANELS AT TOP & BOTTOM



n = 1

 $N = \sqrt{n^2 + 100}$

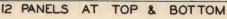
To find the stress in any member when the truss is loaded at:

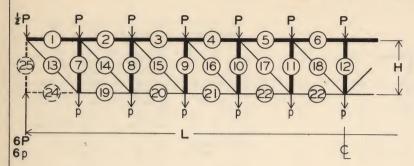
- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load ρ by the stress coefficient under ρ
- 3. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VAI	LUES	OF	n					GENERAL	FORMULAS	
MEMBER		7		В	•	9		10	١	1	I	2	1	3			
							STRE	ss c	OEFFI	CIENT	S						
	P	Р	Р	р	P	р	P	р	Р	р	Р	р	Р	р	Р	р	
1	-3.15	-3.15	- 3.60	- 3.60	- 4.05	- 4.05	- 4.50	- 4.50	- 4.95	- 4.95	- 5.40	- 5.40	- 5.85	- 5.85	- 9/20 n	- 9/20 n	
2	-5.60	-5,60	- 6.40	- 6.40	- 7.20	- 7.20	- 8.00	- 8.00	- 8.80	- 8.80	- 9.60	- 9,60	-10.40	-10.40	- 16/20 n	- 16/20 n	
3	-7.35	-7.35	- 8.40	- 8.40	- 9.45	- 9.45	-10.50	-10.50	-11.55	-11.55	-12,60	-12.60	-13.65	-13.65	- 21/20 n	- 21/20 n	
4	-8.40	-8.40	- 9.60	- 9,60									-15.60		- 24/20 n	= 24/20 n	
5	-8.75	-8.75	-10.00	-10.00	-11.25								-16.25	1	= 25/20 n	- 25/20 n	
6	-4.50	-3.50	- 4.50	- 3.50	- 4.50	- 3.50							- 4.50	- 3.50	- 9/2	- 7/2	
7	-3.50	-2.50	- 3.50	- 2.50	- 3.50	- 2.50	- 3.50	- 2.50	- 3.50	1				- 2.50	- 7/2	- 5/2	
8	-2.50	-1.50	- 2.50	- 1.50	- 2.50	- 1.50	- 2.50	- 1.50	- 2.50	- 1.50		-		- 1.50	- 5/2	- 3/2	
9	-1.50	-0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50		- 0,50	- 3/2	- 1/2	
10	-1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1	0	
11	5.49	5.49	5.76	5.76	6.05	6.05	6,36	6.36	6,69	6.69	7.03	7.03	7.38	7.38	9/20 N	9/20 N	
12	4.27	4.27	4.48	4.48	4.71	4.71	4.95	4.95	5,20	5,20	5.47	5.47	5.74	5.74	7/20 H	7/20 N	
13	3.05	3.05	3.20	3.20	3.36	3.36	3.54	3.54	3.72	3.72	3,91	3.91	4.10	4.10	5/20 N	5/20 N	
14	1.83	1,83	1,92	1,92	2,02	2,02	2,12	2.12	2.23	2,23	2.34	2.34	2.46	2.46	3/20 N	3/20 N	
15	0.61	0.61	0.64	0.64	0.67	0.67	0.71	0.71	0.74	0.74	0.78	0.78	0.82	0.82	1/20 N	1/20 N	
16	3.15	3.15	3,60	3,60	4.05	4.05	4.50	4.50	4.95	4,95	5.40	5.40	5.85	5.85	9/20 n	9/20 n	
17	5.60	5.60	6,40	6.40	7.20	7.20	8.00	8.00	8.80	8,80	9,60	9,60	10.40	10.40	16/20 n	16/20 n	
18	7.35	7.35	8.40	8.40	9.45	9.45	10.50	10.50	11.55	11.55	12.60	12.60	13.65	13.65	721/20 n	21/20 n	
19	8.40	8.40	9,60	9,60	10.80	10,80	12.00	12.00	13.20	13,20	14.40	14.40	15.60	15,60	24/20 n	24/20 n	
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
21	-5.00	0	- 5.00	0	- 5.00	0	- 5.00	0	- 5.00	0	- 5.00	0	- 5.00	0	- 5	0	
	-					L	ENGT	H C	OEFFI	CIENT	S						
		Н		Н	1	+	H	4	Н		Н		H	1		Н	
Horizontal	0.700	0000	0.800	0000	0,900	0000	1.00	0000	1.100000		1,200000		1.300	0000	1/:	10 n	
Diagonal	1,220	656	1.280	0625	1.34	5362	1.41	4214	1.48	1.486607		1.562050		0122	1/:	10 N	
Vertical	1,000	0000	1.000	0000	1.000	0000	1.00	0000	1.00	0000	1.00	0000	1.000	0000	1		
ANGLES	IN DE	GREE	s) BE	TWEE	N ME	MBER	S FOR	R USE	IN	DETER	RMININ	IG BO	OLT A	AND C	ONNECTOR L	OADS	
Between horizontal and diagonal members	55 51		4	48			4	42		40		8	10/n = tan a				
Between diagonal and vertical members	35	5	3	9	4	2	4	5	48		50		5	2	90	- a.	
Between vertical and horizontal members	90	0	9	0	9	0 -	9	90		90		90		0		90	





n = L

 $N = \sqrt{n^2 + 144}$

To find the stress in any member when the truss is loaded at:

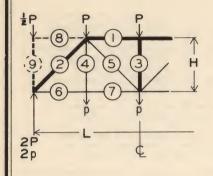
- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load ρ by the stress coefficient under ρ
- 5. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VA	LUES	OF	n					GENERAL	FORMULAS
		7		8		9		10		11		12		13	GENERAL	FURMULAS
							STRE	ss c	OEFFI	CIENT	S					
	P	P	P	р	Р	Р	P	р	P	р	Р	р	Р	р	Р	р
1	- 3,21	- 3.21	- 3.67	- 3.67	- 4.13	- 4.13	- 4.58	- 4.58	- 5.04	- 5.04	- 5.50	- 5.50	- 5.96	- 5.96	- 11/24 n	- 11/24 n
2	- 5.83	- 5.83	- 6.67	- 6.67	- 7.50	- 7.50	- 8.33	- 8.33	- 9.17	- 9.17	-10.00	-10.00	-10.83	-10.83	- 20/24 n	- 20/24 n
3	- 7.88	- 7.88	- 9.00	- 9.00	-10.13	-10.13	-11.25	-11.25	-12.38	-12.38	-13.50	-13.50	-14.63	-14.63	- 27/24 n	- 27/24 n
4	- 9.33	- 9.33	-10.67	-10.67	-12.00	-12.00	-13.33	-13.33	-14.67	-14.67	-16.00	-16.00	-17.33	-17.33	- 32/24 n	- 32/24 n
5	-10,21	-10.21	-11.67	-11.67	-13.13	-13.13	-14.58	-14 _• 58	-16.04	-16.04	-17.50	-17.50	-18.96	-18.96	- 35/24 n	- 35/24 n
6	-10,50	-10.50	-12.00	-12.00	-13.50	-13.50	-15.00	-15.00	-16.50	-16.50	-18.00	-18.00	-19.50	-19.50	- 36/24 n	- 36/24 n
7	- 5.50	- 4.50	- 5.50	- 4.50	- 5.50	- 4.50	- 5.50	- 4.50	- 5.50	- 4.50	- 5.50	- 4.50	- 5.50	- 4.50	- 11/2	- 9/2
8	- 4.50	- 3.50	- 4.50	- 3.50	- 4.50	- 3.50	- 4.50	- 3.50	- 4.50	- 3.50	- 4.50	- 3.50	- 4.50	- 3.50	- 9/2	- 7/2
9	- 3.50	- 2.50	- 3.50	- 2.50	- 3,50	- 2.50	- 3.50	- 2.50	- 3.50	- 2.50	- 3.50	- 2.50	- 3.50	- 2.50	- 7/2	- 5/2
10	- 2.50	- 1.50	- 2.50	- 1.50	- 2.50	- 1.50	- 2.50	- 1.50	- 2.50	- 1.50	- 2.50	- 1.50	- 2.50	- 1.50	- 5/2	- 3/2
11	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 3/2	- 1/2
12	- 1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1	0
13	6.37	6.37	6,61	6,61	6.88	6.88	7.16	7.16	7.46	7.46	7.78	7.78	8.11	8,11	11/24 N	11/24 N
14	5.21	5.21	5.41	5.41	5.63	5.63	5.86	5.86	6.10	6.10	6.36	6.36	6.63	6.63	9/24 N	9/24 N
15	4.05	4.05	4.21	4.21	4.38	4.38	4.56	4.56	4.75	4.75	4.95	4.95	5.16	5.16	7/24 N	7/24 N
16	2.89	2.89	3.00	3,00	3.13	3,13	3.25	3.25	3.39	3.39	3.54	3.54	3.69	3.69	5/24 N	5/24 N
17	1.74	1.74	1.80	1.80	1.88	1.88	1.95	1.95	2.03	2.03	2.12	2.12	2,21	2.21	3/24 N	3/24 N
18	0.58	0.58	0.60	0.60	0.63	0.63	0.65	0.65	0.68	0.68	0.71	0.71	0.74	0.74	1/24 N	1/24 N
19	3,21	3.21	3.67	3.67	4.13	4.13	4.58	4.58	5.04	5.04	5,50	5.50	5,96	5.96	11/24 n	11/24 n
20	5.83	5.83	6.67	6.67	7.50	7.50	8.33	8.33	9.17	9.17	10.00	10.00	10.83	10.83	20/24 n	20/24 n
21	7.88	7.88	9.00	9.00	10.13	10.13	11.25	11.25	12.38	12.38	13.50	13.50	14.63	14,63	27/24 n	27/24 n
22	9.33	9.33	10.67	10.67	12.00	12.00	13.33	13.33	14.67	14.67	16.00	16.00	17.33	17.33	32/24 n	32/24 n
23	10.21	10.21	11.67	11.67	13.13	13.13	14.58	14.58	16.04	16.04	17.50	17.50	18.96	18,96	35/24 n	35/24 n
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	- 6.00	0	- 6.00	0	- 6.00	0	- 6.00	0	- 6.00	0	- 6.00	0	- 6.00	0	- 6	0
			L			L	ENGTH	l CO	EFFIC	ENTS						
	F	1	H	1	Н		Н		Н		Н		Н		ŀ	4
Horizontal	0,583		0,666		0.750		0.833	333	0.916	667	1,000	1000		7.D.B		
													1.083		1/12	
Diagonal	1.157		1,201	000	1.250	000	1.301	708	1.356	568	1.414	214	1.474	317	1/12	N
Vertical	1.000	000	1.000	000	1.000	000	1.000	000	1,000	000	1.000	000	1.000	000	1	
ANGLES	(IN DE	GREES	BE	TWEE	N MEI	MBERS	FOR	USE	IN C	ETER	MININ	G BO	LT A	ND CC	NNECTOR L	DADS
tween horizontal and iagonal members	60		56		53		50		47		45		43		12/n =	tan a
Setween diagonal and	30		34		37		40		43		45		47		90 -	a
Pertical members Setween vertical and	90		90		90		00		90						0.0	
orizontal members	90		90		90		90		90		90		90		90	

4 PANELS AT TOP & BOTTOM



$$n = \frac{L}{H}$$

$$N = \sqrt{n^2 + 16}$$

To find the stress in any member when the truss is loaded at:

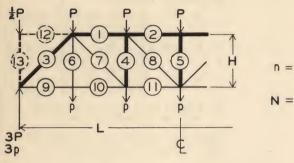
- TOP multiply the panel point load P by the stress coefficient under P
 BOTTOM multiply the panel point load P by the stress coefficient under P
 TOP & BOTTOM add stresses determined in 1 and 2 shows
- termined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VAL	LUES	OF	n					GENERAL	FORMULAS	
MEMBER		7		8	9 10			1	1	l:	2	13	3				
						5	STRES	ss c	OEFFI	CIENT	S						
	P	Р	P	р	P	р	P	р	P	p	P	р	Р	р	Р	р	
1	-3.50	-3.50	-4.00	-4.00	-4.50	-4.50	-5.00	-5.00	-5.50	-5.50	-6,00	-6,00	-6.50	-6.50	- 1/2 n	- 1/2 n	
2	-3.02	-3.02	-3.35	-3.35	-3.69	-3,69	-4.04	-4.04	-4.39	-4.39	-4.74	-4.74	-5.10	-5.10	- 3/8 N	- 3/8 N	
3	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1,00	0	-1.00	0	-1.00	0	- 1	0	
4	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1	
5	1.01	1.01	1.12	1.12	1.23	1.23	1.35	1.35	1.46	1.46	1.58	1.58	1.70	1.70	1/8 N	1/8 N	
6	2.63	2.63	3.00	3.00	3.38	3.38	3.75	3.75	4.13	4.13	4.50	4.50	4.88	4.88	3/8 n	3/8 n	
7	2.63	2.63	3,00	3,00	3.38	3,38	3.75	3.75	4.13	4.13	4.50	4.50	4.88	4.88	3/8 n	3/8 n	
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9	-0.50	0	-0.50	0	-0.50	0	-0.50	0	-0.50	0	-0.50	0	-0.50	0	- 1/2	0	
						L	ENGT	н с	DEFFIC	IENTS	5						
		Н	-	-	H	1	H	1	Н		Н		Н		I	Н	
Horisontal	1.750	0000	2.000	0000	2,250	000	2.500000 2.692582 1.000000		2.750000 2.926175 1.000000		3,000000		3,250000		1/4 n		
Diagonal	2.015	5564	2.236	8068	2.462	214					3.162	278	3,400368		1,	/4 N	
Vertical	1.000	0000	1,000	0000	1,000	000					1,000	000	1,000	000	1		
ANGLES (IN DE	GREES	s) BE	TWEE	N ME	MBER:	S FOR	USE	IN C	ETER	MININ	G BO	LT A	ND (CONNECTOR	LOADS	
etween horizontal and diagonal members	30	30 27		24		22		20		18		17		4/n	= tan a		
Between diagonal and vertical members	60 63			66		68	,	70	- (72		73		90	- a		
Between vertical and orisontal members	90 90		90			90		90		90			90				

6 PANELS AT TOP & BOTTOM



n = <u>L</u>

 $N = \sqrt{n^2 + 36}$

To find the stress in any member when the truss is loaded at:

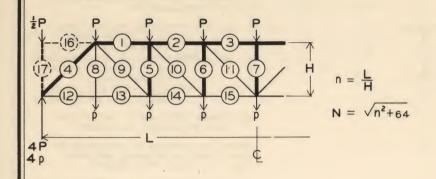
- 1. TOP multiply the panel point load P by the stress coefficient under P
- BOTTOM multiply the panel point load ρ by the stress coefficient under ρ
- J. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

	T					-	VA	LUES	OF	n						
MEMBER	-	7		8		9		10		1	1	2	1	3	GENERAL	FORMULAS
		•					STRE		OEFFI	CIENT	S					
	1 0		Р	0	Р		P		Р		Р	0	Р	р	Р	Р
	P	P		р	F	Р	-	р	-	р		р		P		
1	-4.67	-4.67	-5.33	-5.33	-6.00	-6.00	-6.67	-6.67	-7.33	-7.33	-8.00	-8.00	-8.67	-8.67	- 2/3 n	- 2/3 n
2	-5.25	-5.25	-6.00	-6,00	-6.75	-6.75	-7.50	-7.50	-8.25	-8.25	-9.00	-9.00	-9.75	-9.75	- 3/4 n	- 5/4 n
3	-3.84	-5.84	-4.17	-4.17	-4.51	-4.51	-4.86	-4.86	-5.22	-5.22	-5.59	-5.59	-5.97	-5.97	- 5/12 N	- 5/12 N
4	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	- 3/2	- 1/2
5	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1.00	0	-1.00	0	- 1	0 .
6	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1
7	2,30	2.30	2.50	2.50	2.70	2.70	2.92	2.92	3,13	3.13	3.35	3.35	3.58	3.58	1/4 N	1/4 N
8	0.77	0.77	0.83	0.83	0.90	0.90	0.97	0.97	1.04	1.04	1.12	1.12	1.19	1.19	1/12 N	1/12 N
9	2,92	2.92	3.33	3,33	3.75	3.75	4.17	4.17	4.58	4.58	5,00	5,00	5.42	5.42	5/12 n	5/12 n
10	2.92	2,92	3.33	3.33	3.75	3.75	4.17	4.17	4.58	4.58	5.00	5.00	5.42	5.42	5/12 n	5/12 n
11	4.67	4.67	5.33	5,33	6.00	6,00	6,67	6,67	7.33	7.33	8.00	8.00	8,67	8,67	2/3 n	2/3 n
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	-0.50	0	-0.50	0	-0.50	0	-0.50	0	-0.50	0	-0.50	0	-0.50	0	- 1/2	0
						L	ENGT	H C	DEFFIC	IENTS	3					
		Н	H	1	H	1	H	1	Н		Н		Н		H	1
Horizontal .	1.166	3667	1,333	333	1,500	0000	1.666667		1.833333		2,000000		2.166667		1/6	n
Diagonal	1.536	5591	1,666	667	1,802	776	1.943651		2.088327		2.236068		2.386304		1/6 N	
Vertical	1,000	0000	1,000	0000	1.000	0000	1,000	0000	1,000	000	1,000000		1,000	000	1	
ANGLES	(IN DE	GREE	s) BE	TWEE	N ME	MBER	S FOF	N USE	IN	DETER	RMININ	G BC	LT A	ND C	CONNECTOR L	.OADS
etween horizontal and diagonal members	42	L	37		34		31	ı	29	29			25		6/n = tan a	
Between diagonal and vertical members	45	•	53		56		59		61		63		68		90 -	A.
Between vertical and origontal members	90)	90		90)	90)	90)	90		90)	90	

8 PANELS AT TOP & BOTTOM



To find the stress in any member when the truss is loaded at:

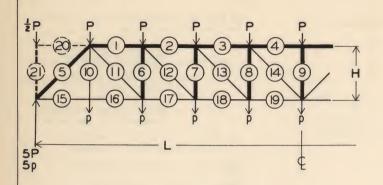
- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load ρ by the stress coefficient under ρ
- 3. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VA	LUES	OF	n					GENERAL	FORMULAS
		7		8		9			11 12				13			
-							STRE	SS	COEFF	ICIEN	TS					
	P	P	Р	р	P	Р	P	Р	Р	р	P	р	Р	р	Р	р
1	-5.25	-5.25	-6.00	-6.00	-6.75	-6.75	- 7.50	- 7.50	- 8,25	- 8.25	- 9.00	- 9.00	- 9.75	- 9.75	- 3/4 n	- 3/4 n
2	-6.56	-6.56	-7.50	-7.50	-8.44	-8,44	- 9.38	- 9.38	-10.31	-10.31	-11.25	-11.25	-12.19	-12.19	- 15/16 n	- 15/16 n
3	-7.00	-7.00	-8.00	-8.00	-9.00	-9.00	-10.00	-10.00	-11.00	-11.00	-12.00	-12.00	-13.00	-15.00	- n	- n
4	-4.65	-4.66	-4.95	-4.95	-5.27	-5.27	- 5.60	- 5.60	- 5.95	- 5.95	- 6.31	- 6.31	- 6.68	- 6.68	- 7/16 N	- 7/16 N
5	-2.50	-1.50	-2.50	-1.50	-2.50	-1.50	- 2.50	- 1.50	- 2.50	- 1.50	- 2.50	- 1.50	- 2.50	- 1.50	- 5/2	- 3/2
6	-1.50	-0.50	-1.50	-0.50	-1.50	-0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 3/2	- 1/2
7	-1.00	0	-1.00	0	-1.00	0	- 1.00	0	- 1,00	0	- 1.00	0	- 1.00	0	- 1	0
8	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1,00	0	1
9	3.32	3.32	54	3.54	3.76	3.76	4.00	4.00	4.25	4.25	4.51	4.51	4.77	4.77	5/16 N	5/16 N
10	1.99	1.99	2.12	2.12	2.26	2.26	2.40	2.40	2.55	2.55	2.70	2.70	2.86	2.86	3/16 N	3/16 N
11	0.66	0.66	0.71	0.71	0.75	0.75	0.80	0.80	0.85	0.85	0,90	0.90	0.95	0.95	1/16 N	1/16 N
12	3.06	3.06	3.50	3.50	3.94	3.94	4.38	4.38	4.81	4.81	5.25	5.25	5.69	5.69	7/16 n	7/16 n
15	3.06	3.06	3.50	3.50	3.94	3.94	4.38	4.58	4.81	4.81	5.25	5.25	5.69	5,69	7/16 n	7/16 n
14	5.25	5.25	6.00	6.00	6.75	6.75	7.50	7.50	8,25	8.25	9.00	9.00	9.75	9.75	3/4 n	3/4 n
15	6.56	6.56	7.50	7.50	8.44	8,44	9.38	9.38	10,31	10.51	11.25	11,25	12.19	12.19	15/16 n	15/16 n
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	-0.50	0	-0.50	0	-0.50	0	- 0.50	0	- 0.50	0	- 0,50	0	- 0.50	0	- 1/2	0
						L	ENGT	H C	DEFFI	CIENT	S					
	1	Н	H	1	H	1	Н		Н		Н		Н			H
Horisontal	0.878	5000	1,000	000	1.125	0000	1.25	0000	1.375000		1,500000		1,625000		1/8 n	
Diagonal	1.328	3768	1,414	214	1.505	199	1.600781		1,700184		1.802776		1.90	3042	1/8 N	
Vertical	1.000	0000	1,000	000	1,000	0000	1.000	0000	1.000	0000	1,000	0000	1.000	0000	1	
ANGLES (I	IN DEGREES) BETWEEN		MEN	BERS	FOR	USE	IN C	ETER			LT A	ND CC	NNECTOR L	OADS		
etween horizontal and diagonal members	49 45		42 3			9	3	36		4	32		8/n	= tan a		
Between diagonal and vertical members	41		4.5		48		5	1	5-	4	56		54	3	90 - a	
Between vertical and horisontal members	90)	90		90)	96	0	90		90		90			90

10 PANELS AT TOP & BOTTOM



 $n = \frac{L}{H}$

 $N = \sqrt{n^2 + 100}$

To find the stress in any member when the truss is loaded at:

- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load ρ by the stress coefficient under ρ
- 3. TOP & BOTTOM add stresses determined in 1 and 2 above

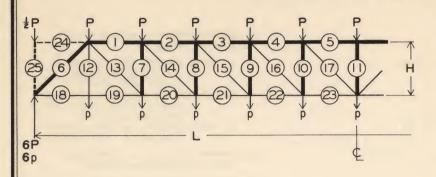
ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER	-						VA	LUES	OF	n					GENERAL	FORMULAS	
		7		8		9		10	1	1	1	12		3	GENERAL	TOTATIOETTO	
							STRE	SS C	OEFFI	CIENT	rs						
	P	P	P	р	P	р	P	р	P	Р	P	р	P	р	Р	р	
1	-5,60	-5.60	- 6.40	- 6.40	- 7.20	- 7.20	- 8.00	- 8.00	- 8.80	- 8.80	- 9.60	- 9.60	-10.40	-10.40	- 4/5 n	- 4/5 n	
2	-7.35	-7 ₀ 35	- 8.40	- 8.40	- 9.45	- 9.45	-10.50	-10.50	-11.55	-11.55	-12.60	-12.60	-13.65	-13.65	- 21/20 n	- 21/20 n	
3	-8,40	-8.40	- 9.60	- 9.60	-10.80	-10.80	-12.00	-12.00	-13.20	-13.20	-14.40	-14.40	-15.60	-15.60	- 6/5 n	- 6/5 n	
4	-8.75	-	-10.00						-		-	-	-16.25	-	- 5/4 n	- 5/4 n	
5	=5.49	-5.49	- 5.76	- 5.76	- 6.05	- 6.05	- 6.36	- 6.36	- 6.69	- 6.69	- 7.03	- 7.03	- 7.38	- 7.38	- 9/20 N	- 9/20 N	
6	-3.50		- 3.50											- 2.50	- 7/2	- 5/2	
7	-2.50		- 2.50		- 2.50								- 2.50	- 1.50	- 5/2	- 3/2	
8	-1.50	-0.50	- 1.50	- 0.50	- 1.50	-	- 1.50	- 0.50	- 1.50	- 0.50	-	- 0.50		- 0.50	- 3/2	- 1/2	
9	-1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1	0	
10	0	1.00		1.00	0	1.00	0	1.00	0	1.00		1.00	0	1.00	0	1	
11	4.27	4.27	4.48	4.48	4.71	4.71	4.95	4.95	5,20	5.20	5.47	5.47	5.74	5.74	7/20 N	7/20 N	
12	3.05	3.05	3,20	3.20	3.36	3.36	3.54	3.54	3.72	3.72	3.91	3.91	4.10	4.10	1/4 N	1/4 N	
15	1.83	1.83	1.92	1.92	2.02	2.02	2.12	2.12	2.23	2.23	2.34	2.34	2.46	2.46	3/20 N	3/20 N	
14	0.61	0.61	0.64	0.64	0.67	0.67	0.71	0.71	0.74	0.74	0.78	0.78	0.82	0.82	1/20 N	1/20 N	
15	3.15	3,15	3,60	3.60	4.05	4.05	4.50	4.50	4.95	4.95	5.40	5.40	5.85	5.85	9/20 n	9/20 n	
16	3.15	3.15	3,60	3,60	4.05	4.05	4.50	4.50	4.95	4.95	5.40	5.40	5.85	5.85	9/20 n	9/20 n	
17	5,60	5,60	6.40	6.40	7.20	7.20	8.00	8,00	8.80	8.80	9,60	9.60	10.40	10.40	4/5 n	4/5 n	
18	7.35	7.35	8.40	8.40	9.45	9.45	10,50	10.50	11.55	11.55	12.60	12.60	13.65	13.65	21/20 n	21/20 n	
19	8,40	8.40	9.60	9.60	10.80	10,80	12.00	12.00	13.20	13.20	14.40	14.40	15.60	15.60	6/5 n	6/5 n	
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
21	-0,50	0	- 0.50	0	- 0.50	0	- 0.50	0	- 0.50	0	- 0.50	0	- 0.50	0	- 1/2	0	
						L	ENGT	н с	DEFFIC	IENTS	5						
	ŀ	1	ŀ	1	H	1	H	1	Н		Н		Н			Н	
Horisontal	0.700	0000	0.800	0000	0.900	0000	1.000000		1,100000		1,200000		1.300	0000	1,	/10 n	
Diagonal	1.220	656	1,280	0625	1.345362		1.41	4214	1,486607		1.562050		1.640	122	1,	/10 N	
Vertical	1.000	1,000000 1,000000		0000	1,000	0000	1.000	0000	1,000	0000	1.000	0000	1.000	0000	1		
ANGLES	IN DE	GREES	s) BE	TWEE	N ME	MBER:	S FOR	USE	IN E	ETER	RMININ	G BC	LT A	ND CC	ONNECTOR L	OADS	
tween horizontal and liagonal members	55		51		48		45	5	42		40)	38		10/n	= tan a	
Setween diagonal and vertical members	35		39		42		46	5	48		50		52		90	- a	
Between vertical and orisontal members	90		90		90		90	90		90		90			90		

TRUSSES - STRESS COEFFICIENTS, LENGTH COEFFICIENTS, & ANGLES - MODIFIED FLAT PRATT

12 PANELS AT TOP & BOTTOM



n = L

 $N = \sqrt{n^2 + 144}$

To find the stress in any member when the truss is loaded at:

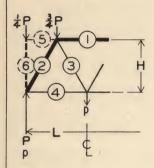
- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load p by the stress coefficient under p
- 3. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VAL	LUES	OF	n					GENERAL	FORMULAS
MEMBER		7		8		9		10	1	1	1	2	1	3	GENERAL	TORMOCHO
							STRES	ss C	OEFFI	CIENT	S					
	P	P	P	р	P	р	Р	р	Р	р	P	р	P	р	Р	р
1	- 5.83	- 5.83	- 6,67	- 6.67	- 7.50	- 7.50	- 8,33	- 8.33	- 9.17	- 9.17	-10.00	-10.00	-10.83	-10.83	- 20/24 n	- 20/24 n
2	- 7.88	- 7.88	- 9.00	- 9.00	-10.13	-10.13	-11.25	-11.25	-12.38	-12.38	-13.50	-13.50	-14.63	-14.63	- 27/24 n	- 27/24 n
3	- 9.33	-9.33	-10.67	-10.67	-12.00	-12.00	-13.33	-13.33	-14.67	-14.67	-16.00	-16.00	-17.33	-17.33	- 32/24 n	- 32/24 n
4	-10.21	-10.21	-11.67	-11.67	-13.13	-13.13	-14.58	-14.58	-16.04	-16.04	-17.50	-17.50	-18.96	-18.96	- 35/24 n	- 35/24 n
5	-10.50	-10.50	-12.00	-12.00	-13.50	-13.50	-15,00	-15.00	-16.50	-16.50	-18.00	-18.00	-19.50	-19.50	- 36/24 n	- 36/24 n
6	- 6.37	- 6.37	- 6,61	- 6.61	- 6.88	- 6.88	- 7.16	- 7.16	- 7.46	- 7.46	- 7.78	- 7.78	- 8.11	- 8.11	- 11/24 N	- 11/24 N
7	- 4.50	- 3.50	- 4.50	- 3.50	- 4.50	- 3.50	- 4.50	- 3.50	- 4.50	- 3.50	- 4.50	- 3.50	- 4.50	- 3.50	- 9/2	- 7/2
8	- 3.50	- 2.50	- 3.50	- 2.50	- 3,50	- 2.50	- 3.50	- 2.50	- 3.50	- 2.50	- 3.50	- 2.50	- 3.50	- 2.50	- 7/2	- 5/2
9	- 2.50	- 1.50	- 2.50	- 1.50	- 2,50	- 1.50	- 2.50	- 1.50	- 2.50	- 1.50	- 2.50	- 1.50	- 2.50	- 1.50	- 5/2	- 3/2
10	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 1.50	- 0.50	- 3/2	- 1/2
11	- 1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1.00	0	- 1	0
12	0	1,00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1.00	0	1
13	5.21	5,21	5.41	5.41	5.63	5.63	5.86	5.86	6.10	6.10	6.36	6.36	6.63	6.63	9/24 N	9/24 N
14	4.05	4.05	4.21	4.21	4.38	4.38	4.56	4.56	4.75	4.75	4.95	4.95	5.16	5.16	7/24 N	7/24 N
15	2.89	2.89	3.00	3.00	3.13	3.13	3.25	3.25	3.39	3.39	3.54	3.54	3.69	3.69	5/24 N	5/24 N
16	1.74	1.74	1.80	1.80	1.88	1.88	1.95	1.95	2.03	2.03	2.12	2.12	2.21	2.21	3/24 N	3/24 N
17	0.58	0.58	0.60	0.60	0.63	0.63	0.65	0.65	0.68	0.68	0.71	0.71	0.74	0.74	1/24 N	1/24 N
18	3.21	3.21	3.67	3.67	4.13	4.13	4.58	4.58	5.04	5.04	5.50	5,50	5.96	5.96	11/24 n	11/24 n
19	3.21	3.21	3.67	3.67	4.13	4.13	4.58	4.58	5.04	5.04	5.50	5.50	5.96	5.96	11/24 n	11/24 n
20	5.83	5.83	6.67	6,67	7.50	7.50	8.33	8.33	9.17	9.17	10,00	10,00	10.83	10.83	20/24 n	20/24 n
21	7.88	7.88	9,00	9,00	10.13	10,13	11.25	11.25	12.38	12.38	13.50	13.50	14.63	14.63	27/24 n	27/24 n
22	9.33	9,33	10.67	10,67	12.00	12.00	13.33	13.33	14,67	14.67	16.00	16.00	17.33	17.33	32/24 n	32/24 n
23	10.21	10,21	11.67	11.67	13.13	13.13	14.58	14.58	16.04	16.04	17.50	17.50	18.96	18.96	35/24 n	35/24 n
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	- 0.50	0	- 0.50	0	- 0.50	0	- 0.50	0	- 0.50	0	- 0.50	0	- 0.50	0	- 1/2	0
						L	ENGT	H C	DEFFIC	HENT	S					
		Н		Н	H	1	H	1	H		Н		Н		H	1
Horizontal	0.583	3333	0,666	6667	0.750	0000	0.833	3333	0.916	667	1,000	0000	1.083	3333	1/1	2 n
Diagonal	1.15	7704	1,20	1850	1.250	0000	1.30	1708	1,356	5568	1,414	1214	1.47	1317	1/1	2 N
Vertical	1.000	0000	1.000	0000	1.000	0000	1,000	0000	1,000	0000	1.000	0000	1.000	0000	1	
ANGLES (IN DE	GREE	s) BE	TWEE	N ME	MBER:	S FOR	USE	IN (DETER	RMININ	G BO	LT A	ND CO	NNECTOR L	OADS
tween horizontal													4:		39/-	= tan a
and diagonal members	60)	56	5 •	53	5	50	,	47		48		4		12/H	- can a
Between diagonal and vertical members	30	0	3-	4	31	7	40	0	4:	3	4.5	5	4	7	90	- a
Between vertical	90		90		90	2	90	0	90	,	90	1	90	0	9	0

2 PANELS AT BOTTOM



$$U = \frac{1}{H}$$

$$U = \sqrt{U_5 + 16}$$

To find the stress in any member when the truss is loaded at:

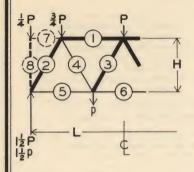
- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load ρ by the stress coefficient under ρ
- 5. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VAI	LUES	OF	n					GENERAL	FORMULAS
		7		8		9	1	0		1	1	2	1.	3	OLIVERAL	ONWOLAS
							STRES	ss c	OEFFI	CIENT	S					
	,P	P	P	р	P	р	P	р	P	р	Р	р	P	р	Р	Р
1	-1.51	-1.75	-1.50	-2.00	-1.69	-2.25	-1.88	-2.50	-2.06	-2.75	-2.25	-3.00	-2,44	-3.25	- 3/16 n	- 1/4 n
2	-1.51	-1.01	-1.68	-1.12	-1.85	-1.23	-2.02	-1.35	-2.19	-1.46	-2.37	-1.58	-2.55	-1.70	- 3/16 N	- 1/8 N
8	0	1.01	0	1.12	0	1.23	0	1.35	0	1.46	0	1.58	0	1.70	0	1/8 N
4	1.51	0.88	1.50	1.00	1.69	1.15	1.88	1.25	2.06	1.38	2.25	1.50	2.44	1,63	3/16 n	1/8 n
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	-0 ₀ 25 0 -0 ₀ 25									0	- 1/4	0				
	LENGTH COEFFICIENTS															
	H	+	ŀ	1	H	1	Н		Н		Н		Н		H	1
1, 4	3,500	000	4,000	000	4.500	000	5,000	000	5,500	000	6,000	000	6.500	000	1/2	n
2, 3	2,015	564	2,236	068	2.462	214	2,692	582	2,926	175	3.162	278	3,400	368	1/4	N
5	1.750	000	2.000	000	2.250	000	2.500	000	2.750	000	3,000	000	3,250	000	1/4	n
6	1,000	000	1,000	000	1.000	000	1,000	000	1,000	000	1,000	000	1,000	000	1 .	
ANGLES (IN DE	GREES	s) BE	TWEE	N ME	MBER:	s FOR	USE	IN C	PETER	MININ	G BO	LT A	ND C	CONNECTOR L	OADS
Setween horizontal and diagonal members	50		27		24		22		20		18		17		4/n =	tan a
Between diagonal members	120		126		132		136		140		144		146		180 -	2a.
Between vertical and diagonal members	60		63		66		68		70		72		75		90 -	8.
Between vertical and norisontal members	90		90		90		90		90		90		90		90	

3 PANELS AT BOTTOM



$$n = \frac{L}{H}$$

$$N = \sqrt{n^2 + 36}$$

To find the stress in any member when the truss is loaded at:

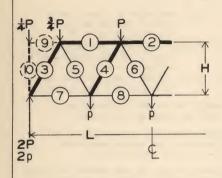
- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load p by the stress co-efficient under p
- 3. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION
MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VAI	LUES	OF	n					GENERAL	FORMULAS
MEMBER		7	6	3	9	•	10)	1	ı	l:	2	1.3	3	GENERAL	PORIVIOLE,
							STRES	s C	OEFFI	CIENT	S					
	P	Р	P	р	P	р	Р	р	Р	р	Р	р	P	Р	Р	Р
1	-2.04	-2.33	-2,33	-2.67	-2.63	-3.00	-2.92	-3.35	-3.21	-3.67	-3.50	-4.00	-3.79	-4.33	- 7/24 n	- 1/3 n
2	-1,92	-1.54	-2.08	-1.67	-2.25	-1.80	-2.43	-1.94	-2.61	-2.09	-2.80	-2.24	-2.98	-2.39	- 5/24 N	- 1/6 N
3	-0.77	0	-0.85	0	-0.90	0.	-0.97	0	-1.04	0	-1.12	0	-1.19	0	- 1/12 N	0
4	0.77	1.54	0.85	1.67	0.90	1.80	0.97	1.94	1.04	2.09	1.12	2.24	1.19	2.39	1/12 N	1/6 N
5	1.46	1.17	1.67	1.33	1.88	1.50	2.08	1.67	2.29	1.85	2.50	2.00	2.71	2.17	5/24 n	1/6 n
6	2.63	2.33	3,00	2.67	3.38	3,00	3.75	3,33	4.13	3.67	4.50	4.00	4.88	4.33	3/8 n	1/3 n
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	-0.25	0	-0.25	0	-0.25	0	-0.25	0	-0.25	0	-0.25	0	-0.25	0	- 1/4	0
			-			L	ENGTH	1 CO	EFFIC	ENTS						
	F	1	H	i	Н		Н		Н		Н		Н		1	Н
1, 5, 6	2.333	333	2,666	667	8.000	000	3.333	333	3.666	667	4.000	000	4.333	333	1/	3 n
2, 3, 4	1.556	591	1.666	667	1.802	776	1.943	651	2.088	327	2.236	068	2.386	304	1/	'6 N
7	1.166	6667	1.333	333	1.500	000	1,666	667	1.833	333	2.000	000	2.166	667	1/	6 n
8	1,000	0000	1,000	000	1,000	000	1,000	000	1,000	000	1,000	000	1,000	000	1	
ANGLES (IN DE	GREES) BE	TWEE	N MEI	MBERS	FOR	USE	IN D	ETER	MINING	в во	LT A	ND CC	NNECTOR L	OADS
Setween horizontal and diagonal members	41		57		34		31		29		27		25		6/n	= tan a
Between diagonal members	98		106		112		118		122		126		130		180	- 2a
Between vertical and diagonal members	49		53		56		59		61		63		65		90	- 4
Between vertical and acrisontal members	90		.90		90		90		90		90		90		9	0

4 PANELS AT BOTTOM



$$n = \frac{L}{H}$$

$$N = \sqrt{n^2 + 64}$$

To find the stress in any member when the truss is loaded at:

- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the penel point load p by the stress coefficient under p
 3. TOP & BOTTOM add stresses de-
- termined in 1 and 2 above

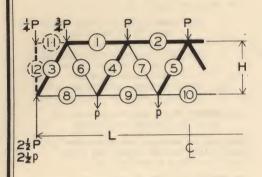
ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VAL	LUES	OF	n					GENERAL F	ORMULAS
		7		8		9		10		1	1	2	1	3	OCHLING T	Orthograp
							STRES	s c	OEFFI	CIENT	S					
	P	Р	Р	р	Р	р	P	р	Р	Р	Р	р	Р	Р	Р	Р
1	-2.41	-2.63	-2.75	-3.00	-3.09	-3.38	-3.44	-3.75	-3.78	-4.13	-4.13	-4.50	-4.47	-4.88	- 11/32 n	- 3/8 n
2	-5.28	-3,50	-3.75	-4.00	-4.22	-4.50	-4.69	-5.00	-5.16	-5.50	-5,63	-6.00	-6.09	-6.50	- 15/32 n	- 1/2 n
3	-2.33	-1.99	-2.47	-2.12	-2.63	-2.26	-2.80	-2.40	-2.98	-2.55	-3.15	-2.70	-3.34	-2.86	- 7/32 N	- 3/16 N
4	-1.33	-0.66	-1.41	-0.71	-1.51	-0.75	-1.60	-0.80	-1.70	-0.85	-1.80	-0.90	-1.91	-0.95	- 1/8 N	- 1/16 N
5	1.33	1.99	1,41	2.12	1.51	2.26	1.60	2.40	2,70	2.55	1.80	2.70	1.91	2.86	1/8 N	3/16 N
6	0	0.66	0	0.71	0	0.75	0	0.80	0	0.85	0	0.90	0	0.95	0	1/16 N
7	1.53	1.31	1.75	1.50	1,97	1.69	2.19	1.88	2.41	2.06	2.63	2.25	2.84	2,44	7/32 n	3/16 n
8	3.28	3.06	3.75	3.50	4.22	3.94	4.69	4.38	5.16	4.81	5,63	5.25	6.09	5,69	15/32 n	7/16 n
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	-0.25	0	-0.25	0	-0.25	0	-0.25	0	-0.25	0	-0,25	0	-0.25	0	- 1/4	0
						LI	ENGTH	+ CO	EFFIC	IENTS						
	H	1	H	i	Н		Н		Н		Н		Н		H	1
1, 2, 7, 8	1.750	000	2,000	000	2.250	000	2,500	000	2.275	000	3.000	000	3.250	000	1/4 :	1
3, 4, 5, 6	1.328	768	1,414	214	1,505	199	1,600	781	1,700	184	1.802	776	1.908	042	1/8 1	r
9	0.875	000	1,000	000	1.125	000	1.250	000	1.375	000	1.500	000	1.625	000	1/8 r	1
10	1,000	000	1,000	000	1,000	000	1,000	000	1,000	000	1,000	000	1,000	000	1	
ANGLES (N DEC	GREES) BE	TWEEN	MEN	MBERS	FOR	USE	IN D	ETER	MINING	BOL	_T AI	ND CO	NNECTOR LOA	DS
diagonal members	49		45		42		39		36		34		32		8/n = t	an a
Between diagonal members	82		90		96		102		108		112		116		180 - 2	ta.
Between vertical and diagonal members	61		45		48		51		54		56		58		90 - a	
Between vertical and horizontal members	90		90		90		90		90		90		90		90	

WARREN FLAT TRUSSES - STRESS COEFFICIENTS, ANGLES LENGTH COEFFICIENTS,

5 PANELS AT BOTTOM



$$n = \frac{L}{H} \bullet$$

$$N = \sqrt{n^2 + 100}$$

To find the stress in any member when the truss is loaded at:

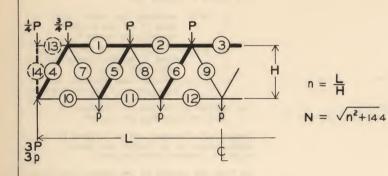
- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load p by the stress coefficient under p
 3. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

							VA	LUES	OF	n					GENERAL	FORMULAS
MEMBER		7	8		9		10		11		12	2	13		GENERAL	FORMULAS
							STRES	SS C	DEFFI	CIENT	S					
	P	р	P	Р	Р	Р	P	р	Р	р	Р	Р	P	Р	Р	Р
1	- 2.63	- 2.80	- 5.00	- 5.20	- 3.38	- 3,60	- 3.75	- 4.00	- 4.13	- 4.40	- 4.50	- 4.80	- 4.98	- 5.20	- 15/40 n	- 16/40 n
2	- 4.03	- 4.20	- 4.60	- 4.80	- 5.18	- 5.40	- 5.75	- 6.00	- 6.33	- 6,60	- 6.90	- 7.20	- 7.48	- 7.80	- 23/40 n	- 24/40 n
3	- 2.75	- 2.44	- 2.68	- 2.56	- 3.03	- 2.69	- 3.18	- 2.83	- 3.35	- 2.97	- 3.52	- 3.12	- 3.69	- 3.28	- 9/40 N	- 8/40 N
4	- 1.83	- 1.22	- 1.92	- 1.28	- 2.02	- 1.35	- 2.12	- 1.41	- 2.23	- 1.49	- 2.34	- 1.56	- 2.46	- 1.64	- 6/40 N	- 4/40 N
5	- 0.61	0	- 0.64	0	- 0.67	0	- 0.71	0	- 0.74	0	- 0.78	0	- 0.82	0	- 2/40 N	0
6	1.85	2.44	1.92	2.56	2.02	2.69	2.12	2.83	2,23	2,97	2.34	3.12	2.46	3.28	6/40 N	8/40 N
7	0.61	1.22	0.64	1.28	0.67	1.35	0.71	1.41	0.74	1.49	0.78	1.56	0.82	1.64	2/40 N	4/40 N
8	1.58	1.40	1.80	1.60	2.05	1.80	2.25	2.00	2.48	2.20	2.70	2.40	2.93	2,60	9/40 n	8/40 n
9	3.68	3,60	4.20	4.00	4.73	4.50	5.25	5.00	5.78	5.50	6.30	6,00	6.83	6,50	21/40 n	20/40 n
10	4.58	4,20	5,00	4,20	5.63	5.40	8,25	6.00	6.88	6.60	7.50	7.20	8.13	7.80	25/40 n	24/40 n
ii.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	- 0.25	0	- 0,25	0	- 0.25	0	- 0.25	0	- 0.25	0	- 0.25	0	- 0.25	0	- 1/4	0
						L	ENGT	H CC	DEFFIC	IENT	3					
		Н		-	H	1	H	1	Н		Н		Н			Н
1, 2, 8, 9, 10	1,400	0000	1,60	0000	1,800	0000	2.00	0000	2,200	0000	2.400	0000	2.600	0000		1/5 n
3, 4, 5, 6, 7	1,220	0656	1.28	0625	1.34	5362	1,41	4214	1.48	6607	1.56	2060	1.640	122	:	1/10 N
11	0.70	0000	0.80	0000	0.90	0000	1.00	0000	1.10	0000	1,200	0000	1,300	0000		1/10 n
12	1,000	0000	1,00	0000	1,00	00000	1,00	0000	1,000	0000	1,000	0000	1,000	0000		ı
ANGLES	IN DE	GREE	s) BE	TWEE	N ME	MBER	s FOF	USE	IN (DETER	RMININ	G BC	LT A	ND C	ONNECTOR	LOADS
Between horizontal	58	5	5	L	4.6	3	4	5	- 45		40)	38	1	10/z	= tan a
diagonal members Between diagonal	70	0	71	3	84		9	0	96	3	100		104	l l	180) - 2a
Between vertical and diagonal members	31	5	31)	43	2	4	5	44	3	50	0	52	:	90) - a
Between vertical and horisontal members	94	0	9	0	96	0	9	0	90)	90	0	90)		90

6 PANELS AT BOTTOM



To find the stress in any member when the truss is loaded at:

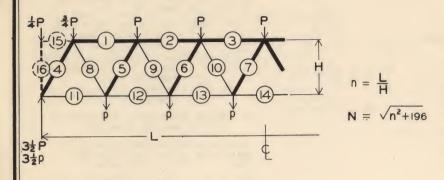
- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load p by the stress co-efficient under p
- 5. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION
MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VA	LUES	OF	n					GENERAL	FORMULAS
,	,	7	8	3	ç	9	10	0	1		12	2	13	3	OCHCI II C	TOTATOLAG
							STRE	ss c	OEFFI	CIENT	S					
	Р	P	Р	р	Р	Р	Р	р	Р	р	P	р	Р	Р	Р	р
1	-2.77	-2.92	-5.17	-5.33	-3.56	-3.75	-3,96	-4.17	-4.35	-4.58	-4.75	-5,00	-5.15	-5.42	- 19/48 n	- 20/48 n
2	-4.52	-4.67	-5.17	-5.33	-5.81	-6,00	-6.46	-6.67	-7.10	-7.33	-7.75	-8,00	-8.40	-8.67	- 31/48 n	- 32/48 n
3	-5,10	-5,25	-5.83	-6.00	-6.56	-6.75	-7.29	-7,50	-8.02	-8.25	-8.75	-9.00	-9.48	⇒9.75	- 35/48 n	- 36/48 n
4	-3,18	-2.89	-3,31	-3.00	-5.44	-3,13	-3,58	-3.25	-3,73	-5.59	-5.89	-3.54	-4.05	-3,69	- 11/48 N	- 10/48 N
5	-2.32	-1.74	-2.40	-1.80	-2.50	-1.88	-2,60	-1,95	-2.71	-2.03	-2.85	-2.12	-2.95	-2.21	- 8/48 N	- 6/48 N
6	-1.16	-0.58	-1,20	-0,60	-1.25	-0.63	-1.30	-0.65	-1 ₀ 36	-0.68	-1.41	-0.71	-1.47	-0.74	- 4/48 N	- 2/48 N
7	2,32	2.89	2.40	3,00	2.50	3,13	2,60	3.25	2.71	3.39	2.83	3.54	2.95	3,69	8/48 N	10/48 N
8	1.16	1.74	1.20	1.80	1.25	1.88	1.30	1.95	1.36	2.03	1.41	2.12	1.47	2.21	4/48 N	6/48 N
9	0	0.58	0	0.60	0	0.65	0	0.65	0	0.68	0	0.71	0	0.74	0	2/48 N
10	1.60	1.46	1.83	1.67	2.06	1.87	2.29	2.08	2.52	2.29	2.75	2.50	2.98	2.71	11/48 n	10/48 n
n	5.94	5.79	4.50	4.33	5.06	4.87	5.62	5.42	6.19	5.96	6.75	6.50	7.31	7.04	27/48 n	26/40 n
12	5.10	4.96	5.83	5,67	6.56	6.37	7.29	7.08	8.02	7.79	8.75	8,50	9.48	9.21	35/48 n	34/48 n
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	-0.25	0	-0.25	0	-0.25	0	-0.25	0	-0.25	0	-0.25	8	-0.25	0	- 1/4	0
						L	ENGT	н сс	EFFIC	IENTS						
	1	1	+	1	H	1	Н		Н		Н		Н			1
, 2, 3, 10, 11, 12	1.166	667	1.333	333	1.500	000	1,666	667	1.833	333	2.000	000	2.166	667	1/6	5 n
4, 5, 6, 7, 8, 9	1.157	704	1,201	850	1.250	000	1,301	.708	1.356	568	1.414	214	1.474	317	1/2	12 N
15	0.583	333	0.666	667	0.750	000	0.833	333	0,916	667	1,000	000	1.083	533	1/1	12 n
14	1,000	000	1,000	000	1,000	000	1,000	000	1,000	000	1,000	000	1,000	000	1	
ANGLES (N DE	GREES	BE	TWEE	N MEI	MBERS	FOR	USE	IN C	ETER	MININ	G BO	LT A	ND C	NNECTOR L	OADS
etween horizontal	60		56		53		50		47		45		43		12/n =	tan a
diagonal members Between diagonal members		. '					-		-		90		64		180 -	20
members Between vertical	60		68		74		80		86		90		94			
and diagonal members	80		34		37		40		43		45		47		90 -	8.
Between vertical	90		90		90		90		90		90		90		90	

7 PANELS AT BOTTOM



To find the stress in any member when the truss is loaded at:

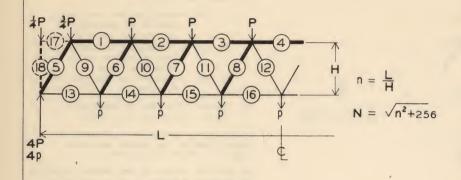
- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load ρ by the stress coefficient under ρ
- 3. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VAL	UES	OF	n					GENERAL	FORMULAS
MEMBER	7	7	8		9		11		11		12	2	13		00.10	
						S	TRES	s cc	EFFIC	IENT	S					
	Р	Р	P	р	Р	р	P	р	Р	р	Р	Р	Р	р	Р	р
1	-2.88	-3.00	-3.29	-3.43	-3.70	-3.86	-4.11	-4.29	-4.52	-4.71	- 4.93	- 5.14	- 5.34	- 5.57	- 23/56 n	= 24/56 n
2	-4.88	-5.00	-5.57	-5.71	-6.27	-6.43	-6.96	-7.14	-7.66	-7.86	- 8.36	- 8.57	- 9.05	- 9.29	- 39/56 n	- 40/56 n
3	-5.88	-6.00	-6.71	-6.86	-7.55	-7.71	-8.39	-8.57	-9.23	-9.43	-10.07	-10.29	-10.91	-11.14	- 47/56 n	- 48/56 n
4	-3.63	-3.35	-3.74	-3.46	-3.86	-3.57	-3.99	-3.69	-4.13	-3.82	- 4.28	- 3.95	- 4.44	- 4.09	- 13/56 N	- 12/56 N
5	-2.80	-2.24	-2.88	-2.30	-2.97	-2.38	-3.07	-2.46	-3.18	-2.54	- 3.29	- 2.63	- 3.41	- 2.73	- 10/56 N	- 8/56 N
6	-1.68	-1.12	-1.73	-1.15	-1.78	-1.19	-1.84	-1.23	-1.91	-1.27	- 1.98	- 1.32	- 2.05	- 1.36	- 6/56 N	- 4/56 N
7	-0.56	0	-0.58	0	-0.59	0	-0.61	0	-0.64	0	- 0.66	0	- 0.68	0	- 2/56 N	0
8	2.80	3.35	2.88	3.46	2.97	3.57	3.07	3.69	3.18	3.82	3.29	3.95	3,41	4.09	10/56 N	12/56 N
9	1.68	2.24	1.73	2.30	1.78	2.38	1.84	2.46	1.91	2.54	1.98	2.63	2.05	2.73	6/56 N	8/56 N
10	0.56	1.12	0.58	1.15	0.59	1.19	0,61	1.23	0.64	1.27	0.66	1.32	0.68	1.36	2/56 N	4/56 N
11	1.63	1.50	1.86	1.71	2.09	1.93	2.32	2.34	2.55	2.36	2.79	2.57	3.02	2.79	13/56 n	12/56 n
12	4.13	4.00	4.71	4.57	5.30	5.14	5.89	5.71	6.48	6.29	7.07	6.86	7.66	7.43	33/56 n	32/56 n
13	5.63	5.50	6.43	6.29	7.23	7.07	8.04	7.86	8.84	8.64	9,64	9.43	10.45	10.21	45/56 n	44/56 n
14	6.13	6.00	7.00	6.86	7.88	7.71	8.75	8.57	9.63	9.43	10.50	10.29	11.38	11.14	49/56 n	48/56 n
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	-0,25	0	-0.25	0	-0.25	0	-0.25	0	-0.25	0	- 0.25	0	- 0.25	0	- 1/4	0
						L	ENGT	H CC	DEFFIC	IENT	S					
		Н	1	4	H	1	H	1	Н		H		Н			Н
1, 2, 3, 11, 12, 13, 14	1,000	0000	1.142	2857	1.285	714	1.428	3571	1.571	429	1.71	4286	1.85	7145	1,	/7 n
5, 6, 7, 8, 9, 10	1,118	3034	1.151	1751	1.188	808	1.228	3904	1.27	1750	1.31	7078	1.36	4641	1,	/14 N
15	0.500	0000	0.573	1429	0.642	857	0.714	1286	0.788	714	0.85	7145	0.92	8571	1,	/14 n
16	1,000	0000	1,000	0000	1.000	0000	1.000	0000	1.000	0000	1.00	0000	1.00	0000	1	
ANGLES (I	N DE	GREES	s) BE	TWEE	N ME	MBER	FOR	USE	IN C	DETER	RMININ	G BC	LT A	ND C	ONNECTOR L	OADS
Setween horizontal	6:	•	6	n	5'	7	5	4	5	2	4	9	4	.7	14/	n = tan a
diagonal members								_							100	0 0
Between diagonal members	5	4	6	0	60	5	7:	2	7	5	8	2	8	6	18	0 - 24
Between diagonal and vertical members	2	7	3	0	33	3	3	6	3	В	4	1	4	3	9	0 - a.
Between vertical and orizontal members	9	0	9	0	19	0	9	0	9	0	8	0	9	0		90

8 PANELS AT BOTTOM



To find the stress in any member when the truss is loaded at:

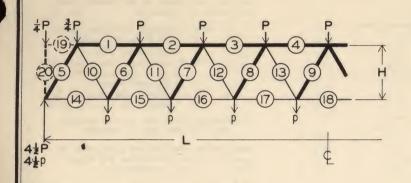
- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load p by the stress coefficient under p
 3. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VA	LUES	OF	n					CENEDA	500141114
#ICMIDEN		7		В	(9		10	1	1		12	1	3	GENERAL	FORMULA:
							STRE	ss c	OEFFI	CIENT	S					
	Р	Р	P	р	Р	р	P	р	Р	р	P	р	Р	р	Р	р
1	-2.95	-3,06	-3.38	-3.50	-3.80	-3.94	-4.22	- 4.38	- 4.64	- 4.81	- 5.06	- 5.25	- 5.48	- 5.69	- 27/64 n	- 28/64 n
2	-5.14	-5.25	-5.88	-6.00	-6,61	-6.75	-7.34	- 7.50	- 8.08	- 8.25	- 8.81	- 9.00	- 9.55	- 9.75	- 47/64 n	- 48/64 n
3	-6.45	-6.56	-7.38	-7.50	-8.30	-8.44			-10.14						- 59/64 n	- 60/64 n
4	-6.89	-7 ₀ 00	-7.88	-8.00	-8.86	-9,00			-10.83	_	-	-	_		- 63/64 n	- 64/64 n
6	-4.09	-3.82	-4.19	-3.91	-4.30	-4.02	-4.42		- 4.55					- 4.51	- 16/64 N	- 14/64 N
6	-5.27	-2.73	-3.35	-2.80	-3.44	-2.87	-3.54		- 3.64		10000			- 3.22	- 12/64 N	- 10/64 N
7 8	-2.18	-1.64	-2.24	-1.68	-2.29	-1.72	-2.36		- 2.43					- 1.95	- 8/64 N	- 6/64 N
9	-1.09	-0.55	-1.12	-0 ₀ 56	-1.15	-0.57	-1.18	- 0.59	- 1.21	- 0.61	-	- 0.63		- 0.64	- 4/64 N	- 2/64 N
10	2.18	2.73	3.35	3.91	2.29	2.87	2.36	2.95	3.64	4.25 3.03			3.87 2.58	4.51 3.22	12/64 N 8/64 N	14/64 N 10/64 N
11	1.09	1.64	1,12	1.68	1.15	1.72	1.18	1.77	1,21	1.82	1.25		1.29	1.93	4/64 N	6/64 N
12	0	0.55	0	0.56	0	0.57	0	0.59	0	0.61	0	0.63	0	0.64	0	2/64 N
13	1.64	1,53	1.88	1.75	2.11	1.97	2.34	2.19	2.58	2.41	2.81	2.63	3.05	2.84	15/64 n	14/64 n
14	4.27	4.16	4.88	4.75	5.48	5.34	6.09	5.94	6.70	6.53	7,31	7.13	7.92	7.72	39/64 n	38/64 n
15	6.02	5.91	6.88	6.75	7.73	7.59	8.59	8.44	9.45	9.28	10,31	10,13	11,17	10,97	55/64 n	54/64 n
16	6.89	6.78	7.88	7.75	8.86	8.72	9.84	9.69	10.83	10.66	11.81	11.63	12.80	12.59	63/64 n	62/64 n
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	-0.25	0	-0.25	0	-0.25	0	-0.25	0	- 0.25	0	- 0,25	0	- 0.25	0	- 1/4	0
						L	ENGT	н с	DEFFIC	IENTS	3				•	
	ŀ	1	H	1	Н	1	H	1	Н		Н		Н		Н	
,2,3,4,13,14,15,16	0.875	000	1,000	000	1.125	000	1.25	0000	1.375	5000	1,50	0000	1,62	5000	1/8	n
6,7,8,9,10,11,12	1.091	516	1,118	054	1.147	347	1.17	9248	1.21	550	1.25	0000	1.288	471	1/1	.6 N
17	0.437	500	0.500	000	0.562	500	0.62	5000	0.687	500	0.75	0000	0.812	500	1/1	.6 n
18	1.000	000	1,000	000	1,000	000	1.000	0000	1.000	0000	1,000	0000	1.000	0000	_ 1	
ANGLES (N DE	GREES	s) BE	TWEE	N ME	MBERS	FOF	USE	IN I	DETER	RMININ	IG BO	DLT A	ND C	ONNECTOR LO	DADS
tween horizontal	66		63		61		51	3	58		5	3	51		16/n	= tan a
diagonal members detween diagonal						- 11										
members	48		54		58		64		70		74	6	78		180	- 2a
etween diagonal and vertical members	24		27		29		33	3	38	,	3'	7	39		90	- 4
Setween vertical	90		90		90		90		90		96	0	90			0

9 PANELS AT BOTTOM



$$N = \sqrt{n^2 + 324}$$

To find the stress in any member when the truss is loaded at:

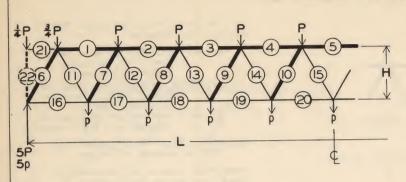
- 1. TOP multiply the panel point load P by the stress coefficient under P
- BOTTOM multiply the panel point load ρ by the stress coefficient under ρ
- 5. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VA	LUES	OF	n					GENERAL	FORMULAS
		7		8		9		10		11		12	1	3	OCINCIAND	TONNOCAS
	,						STRE	SS C	OEFF	CIEN"	TS					
	P	P	P	р	P	р	P	р	Р	р	Р	р	Р	р	Р	р
1	-3.01	-3.11	-3.44	-3.56	- 3.88	- 4.00	- 4.31	- 4.44	- 4.74	- 4.89	- 5.17	- 5.33	- 5.60	- 5.78	- 31/72 n	- 32/72 n
2	-5.35	-5.44	-6.11	-6.22	- 6.88	- 7.00	- 7.64	- 7.78	- 8.40	- 8.56	- 9.17	- 9.33	- 9.93	-10.11	- 55/72 n	- 56/72 n
3	-6.90	-7.00	-7.89	-8.00	- 8.88	- 9.00	- 9.86	-10.00	-10.85	-11.00	-11.83	-12,00	-12.82	-13.00	- 71/72 n	- 72/72 n
4	-7.68	-7.78	-8.78	-8.89	- 9.88	-10.00	-10.97	-11.11	-12.07	-12.22	-13.17	-13,33	-14.26	-14.44	- 79/72 n	- 80/72 n
5	-4.56	-4.29	-4.65	-4.38	- 4.75	- 4.47	- 4.86	- 4.58	- 4.98	- 4.69	- 5.11	- 4.81	- 5.24	- 4.93	- 17/72 N	- 16/72 N
6	-3.76	-3.22	-5.85	-3.28	- 3.91	- 3.35	- 4.00	- 3.43	- 4.10	- 3.52	- 4.21	- 3.61	- 4.32	- 3,70	- 14/72 N	- 12/72 N
7	-2.68	-2.15	-2.74	-2.19	- 2.80	- 2.24	- 2.86	- 2.29	- 2.93	- 2.34	- 3.00	- 2.40	- 3.08	- 2.47	- 10/72 N	- 8/72 N
8	-1.61	-1.07	-1.64	-1.09	- 1.68	- 1.12	- 1.72	- 1.14	- 1.76	- 1.17	- 1.80	- 1.20	- 1.85	- 1.23	- 6/72 N	- 4/72 N
9	-0.54	0	-0.55	0	- 0.56	0	- 0.57	0	- 0.59	0	- 0.60	0	- 0.62	0	- 2/72 N	0
10	3.76	4.29	3.83	4.38	3.91	4.47	4.00	4.58	4.10	4.69	4,21	4.81	4.32	4.93	14/72 N	16/72 N
11	2.68	3.22	2.74	3.28	2.80	3.35	2.86	3.43	2.93	3.52	3.00	3,61	3.08	3.70	10/72 N	12/72 N
12	1.61	2.15	1.64	2.19	1.68	2.24	1.72	2.29	1.76	2.34	1,80	2.40	1.85	2.47	6/72 N	8/72 N
13	0.54	1.07	0.55	1.09	0.56	1.12	0.57	1.14	0.59	1.17	0.60	1.20	0.62	1.23	2/72 N	4/72 N
14	1.65	1.56	1.89	1.78	2.13	2.00	2.36	2.22	2,60	2.44	2.83	2.67	3.07	2.89	17/72 n	16/72 n
15	4.38	4.28	5.00	4.89	5.63	5.50	6.25	6.11	6.88	6.72	7.50	7.33	8,13	7.94	45/72 n	44/72 n
16	6.32	6.22	7.22	7.11	8.13	8.00	9.03	8.89	9.93	9.78	10.83	10.67	11.74	11.56	65/72 n	64/72 n
17	7.49	7.59	8.56	8.44	9.63	9.50	10.69	10.56	11.76	11.61	12.83	12.67	13.90	13.72	77/72 n	76/72 n
18	7.88	7.78	9.00	8.89	10.13	10.00	11,25	11.11	12.38	12.22	13.50	13.33	14.63	14.44	81/72 n	80/72 n
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	-0.25	0	-0.25	0	- 0.25	0	- 0.25	0	- 0.25	0	- 0.25	0	- 0.25	0	- 1/4	0
						L	ENGT	1 00	EFFIC	IENTS	3					
	H	1	Н		Н	1	Н		Н		Н		Н		H	1
. 2, 3, 4, 14, .5, 16, 17, 18	0.777	778	0.8888	389	1,000	000	1,111	1111	1,222	222	1,333	333	1,444	444	1/9	9 n
5, 6, 7, 8, 9, 10, 11, 12, 13	1.072	956	1.0943	518	1,118	034	1.143	959	1.171	946	1.201	850	1,233	534	1/	18 N
19	0.388	889	0.4444	144	0,500	000	0,555	556	0,611	111	0.666	667	0.722	222	1/	18 n
20	1,000	000	1,0000	000	1.000	000	1,000	0000	1,000	000	1,000	000	1,000	000	1	
ANGLES	IN DE	GREE	s) BE	TWEE	N ME	MBER	S FOR	R USE	IN	DETE	RMININ	IG BO	DLT A	AND C	ONNECTOR L	OADS
etween horizontal and diagonal members	69		66		63		61	ı	59		56		54		18/n	= tan a
Between diagonal	42		48		54		58	3	62		68		72		180	- 2a
Between diagonal and vertical members	21		24		27		29	,	31		34		36		90	- 4
Between vertical and orizontal members	90		90		90	,	90		90		90		90			90

10 PANELS AT BOTTOM



n = L

 $N = \sqrt{n^2 + 400}$

To find the stress in any member when the truss is loaded at:

- 1. TOP multiply the panel point load P by the stress coefficient under P
- 2. BOTTOM multiply the panel point load ρ by the stress coefficient under ρ
- 5. TOP & BOTTOM add stresses determined in 1 and 2 above

ALL MEMBERS WHICH ARE IN COMPRESSION MUST BE DESIGNED AS COLUMNS

Compressive members are designated by heavy lines on the sketch and minus sign (-) before coefficients.

MEMBER							VAL	UES	OF	n					GENERAL	FORMULAS
MEMBER		7		8	Ġ	9	1	0	1			2	10	3		
							STRES	SS C	DEFFI	CIENT	S					
	P	P	Р	р	Р	р	P	Р	P	р	P	р	Р	р	Р	Р
1	-5.06	-3.15	-3.50	- 3,60	- 3.94	- 4.05	- 4.38	- 4.50	- 4.81	- 4.95	- 5.25	- 5.40	- 5.69	- 5.85	- 35/80 n	- 36/80 n
2	-5.51	-5,60	-6.30	- 6.40	- 7.09	- 7.20	- 7 ₀ 88	- 8.00	- 8,66	- 8.80	- 9.45	- 9,60	-10.24	-10,40	- 63/80 n	- 64/80 n
3	-7.26	-7.35	-8.30	- 8.40	- 9.34	- 9.45	-10,38	-10.50	-11.41	-11.55		-12,60		-13.65	= 83/80 n	- 84/80 n
4	-8.31	-8.40	-9.50	- 9,60	-10.69	-10.80	-11.88	-12,00	-13.06			-14.40		-15,60	- 95/80 n	- 96/80 n -100/80 n
5	-8.66	-8.75	-9.90		-11.14	-11,25	-12.38	-12.50		-13.75				-16.25 - 5.37	- 99/80 n - 19/80 N	- 18/80 N
6	-5.03	-4.77	-5.12	- 4.85	- 5.21	- 4.93	- 5,31	- 5.03	- 5.42	- 5.14 - 3.99	- 5.54 - 4.66	- 5.25	- 5.67 - 4.77	- 4.17	- 16/80 N	- 14/80 N
7	-4.24	-3.71	-4.51	- 3.77	- 4.39	- 3.84 - 2.74	- 4.47 - 3.35	- 5.91 - 2.80	- 4.57 - 3.42	- 2.85	- 3.50	- 2.92	- 3.58	- 2.98	- 12/80 N	- 10/80 N
9	-3.18	-2.65	-5.23 -2.15	- 2.69 - 1.62	- 3.29 - 2.19	- 1.64	- 2.24	- 1.68	- 2.28	- 1.71	- 2,33	- 1.75	- 2.59	- 1.79	- 8/80 N	- 6/80 N
10	-1.06	-0.53	-1.08	- 0.54	- 1.10	- 0.55	- 1.12	- 0.56	- 1.14	- 0.57	- 1.17	- 0.58	- 1.19	- 0.60	- 4/80 N	- 2/80 N
11	4.24	4.77	4.31	4.85	4.39	4.93	4.47	5.05	4.57	5.14	4.66	5.25	4.77	5.37	16/80 N	18/80 N
12	3.18	3.71	3.23	3,77	3.29	3.84	3.35	3.91	3,42	3.99	3.50	4.08	3.58	4.17	12/80 N	14/80 N
15	2.12	2,65	2.15	2,69	2.19	2.74	2.24	2.80	2.28	2.85	2,33	2,92	2,59	2.98	8/80 M	10/80 N
14	1.06	1.59	1.08	1.62	1.10	1.64	1.12	1.68	1.14	1.71	1.17	1.75	1.19	1.79	4/80 N	6/80 H
16	0	0.53	0	0.54	0 '	0.55	0	0.56	0	0.57	0	0.58	0	0.60	0	2/80 N
16	1.66	1.58	1.90	1.80	2.14	2.05	2.38	2.25	2,61	2.48	2.85		3.09	2.93	19/80 n	18/80 n
17	4.46	4.38	5,10	-	5.74	5.63	6.38	6.25	7.01	6.88	7.65	-	8.29	8.13	51/80 n	50/80 n 74/80 n
18	6,56	6.48	7.60		8.44	8,33	9,38	9.25	10.51	10.18	11,25		12.19	12.05	75/80 n 91/80 n	90/80 n
19	7.96	7.88	9.10		10.24	10.13		11,25	12.51	12.38	13.65		14.79	15.93	99/80 n	98/80 n
20	8,66	8.58	9,90	9.80	11.14	11.05	12.38	12.25	13.61	13.40	14.00	0	0	0	0	0
21	0 -0.25	0	0 -0.25		- 0.25	0	- 0.25	0	- 0.25	0	- 0.25	1	- 0.25	0	- 1/4	0
66	-0.20		-0.20		- 0.00		ENGT		EFFIC	IENTS		1				
	T		H	_	Н		H		Н	121410	Н		Н			Н
1011	-	1	'	1		-	- "									<i>t</i>
1, 2, 3, 4, 5, 16, 17, 18, 19, 20	0.70	0000	0.80	0000	0.90	0000	1,00	0000	1.10	0000	1,20	0000	1.50	0000	1/	10 m
6, 7, 8, 9, 10, 11, 12, 13, 14, 15	1.05	9481	1.07	7053	1.09	6586	1,11	8034	1,14	1271	1.16	6190	1.19	2686	1/	20 N
21	0.35	0000	0440	0000	0.45	0000	0.50	0000	0.55	0000	0.60	00000	0.66	0000	1/	20 n
22	1.00	0000	1,00	0000	1,00	0000	1,00	0000	1,00	0000	1.00	00000	1.00	0000	1	
ANGLES	(IN DE	GREE	s) B	ETWE	EN ME	EMBER	RS FO	R USE	IN	DETE	RMINII	NG BO	DLT .	AND C	ONNECTOR L	LOADS
etween norizontal and diagonal members	7	1	6	18	6	6	6	3	6	1	8	59	5	7	20/1	n = tan a
Between diagonal members	8	8	4	14	4	.8	8	5 <u>4</u>	5	8		52	6	16	180	0 - 2a
Between diagonal and vertical members	1	.9	2	22	2	4	2	27	2	9	:	31	8	3	90) = a
Between vertical	9	0	9	90	9	0	9	00	9	0	1	90	8	ю		90

WOOD STRUCTURAL DESIGN DATA

		DEC	IMAL E	QUIVALE	NTS		•
		DECIMALS	OF A FOOT			DECIMALS	OF AN INCH
FRACTION	DECIMAL	FRACTION	DECIMAL	FRACTION	DECIMAL	FRACTION	DECIMAL
1/6	0.0052	4-1/6	0.3385	8-1/6	0.6719	1/64	0.015625
1/8	0.0104	4-1/8	0.3438	8-1/8	0.6771	1/52	0.03125
1/8	0.0156	4-3/6	0.3490	8-3/6	0.6823	3/64	0.04 6875
1/4	0.0208	4-1/4	0.3542	8-1/4	0.6875	1/16	0.0625
5/16	0.0260	$ 4-\frac{5}{16} 4-\frac{3}{8} 4-\frac{7}{16} 4-\frac{1}{2} $	0.3594	8-5/16	0.6927	⁵ /64	0.078125
3/8	0.0313		0.3646	8-3/8	0.6979	3/32	0.09375
7/16	0.0365		0.3698	8-7/16	0.7031	7/64	0.109375
1/2	0.0417		0.3750	8-1/2	0.7083	1/8	0.125
9/6	0.0469	$\begin{array}{c} 4-9 & 6 \\ 4-5 & 8 \\ 4-11 & 6 \\ 4-3 & 4 \end{array}$	0.3802	8-9/6	0.7135	⁹ / ₆₄	0.140625
5/8	0.0521		0.3854	8-5/8	0.7188	⁵ / ₅₂	0.15625
11/6	0.0573		0.3906	8-11/6	0.7240	¹¹ / ₆₄	0.171875
3/4	0.0625		0.3958	8-3/4	0.7292	³ / ₁₆	0.1875
18/16	0.0677	4-13/6	0.4010	8-13/16	0.7344	13 ₆₄ 7 ₃₂ 15 ₆₄ 14	0.203125
7/8	0.0729	4-7/8	0.4063	8-7/8	0.7396		0.21875
15/16	0.0781	4-15/16	0.4115	8-1/16	0.7448		0.234375
1-	0.0833	5-	0.4167	9-	0.7500		0.250
1-1/6	0.0885	5-1/16	0.4219	9-1/6	0.7552	17 ₆₄	0.265625
1-1/8	0.0938	5-1/8	0.4271	9-1/8	0.7604	9/32	0.28125
1-3/6	0.0990	5-3/16	0.4323	9-3/6	0.7656	19 ₆₄	0.296875
1-1/4	0.1042	5-1/4	0.4375	9-1/4	0.7708	5/16	0.3125
1-5/6	0.1094	$ 5-\frac{5}{16} 5-\frac{3}{8} 5-\frac{7}{16} 5-\frac{1}{2} $	0.4427	9-5/6	0.7760	21 ₆₄	0.328125
1-3/8	0.1146		0.4479	9-3/8	0.7813	11 ₅₂	0.34375
1-7/6	0.1198		0.4531	9-7/6	0.7865	23 ₆₄	0.359375
1-1/2	0.1250		0.4533	9-1/2	0.7917	3/8	0.375
1-9/6 1-5/8 1-11/6 1-3/4	0.1302 0.1354 0.1406 0.1458	5-9/16 5-5/8 5-11/16 5-3/4	0.4635 0.4688 0.4740 0.4792	9-9/6 9-5/8 9-11/6 9-3/4	0.7969 0.8021 0.8073 0.8125	25 ₆₄ 13 ₅₂ 27 ₆₄	0.390625 0.40625 0.421875 0.4375
$ \begin{array}{c} 1 - \frac{13}{16} \\ 1 - \frac{7}{8} \\ 1 - \frac{15}{16} \\ 2 - \end{array} $	0.1510	5-13/6	0.4844	9-13/6	0.8177	29 ₆₄	0.453125
	0.1563	5-7/8	0.4896	9-7/8	0.8229	15 ₈₂	0.46875
	0.1615	5-15/6	0.4948	9-15/6	0.8281	31 ₆₄	0.484375
	0.1667	6-	0.5000	10-	0.8333	1 ₂	0.500
2-1/6 2-1/8 2-8/6 2-1/4	0.1719 0.1771 0.1823 0.1875	6-1/6 6-1/8 6-3/6 6-1/4	0.5052 0.5104 0.5156 0.5208	10-1/6 10-1/8 10-3/6 10-1/4	0.8385 0.8438 0.8490 0.8542	33 ₆₄ 17 ₃₂ 35 ₆₄	0.515625 0.53125 0.546875 0.5625
2-5/6	0.1927	6-5/16	0.5260	10 ⁻⁵ / ₁₆	0.8594	37 ₆₄	0.578125
2-3/8	0.1979	6-3/8	0.5313	10 ⁻³ / ₈	0.8646	19 ₅₂	0.59375
2-7/6	0.2031	6-7/16	0.5365	10 ⁻⁷ / ₁₆	0.8698	39 ₆₄	0.609375
2-1/2	0.2083	6-1/2	0.5417	10 ⁻¹ / ₂	0.8750	5/8	0.625
2-9/6	0.2135	6-9/16	0.5469	10-9/16	0.8802	41 ₆₄	0.640625
2-5/9	0.2188	6-5/8	0.5521	10-5/8	0.8854	21 ₃₂	0.65625
2-11/6	0.2240	6-11/16	0.5573	10-11/16	0.8906	43 ₆₄	0.671875
2-8/4	0.2292	6-3/4	0.5625	10-3/4	0.8958	11 ₆	0.6875
2-13 ₁₆	0.2344	6-13/6	0.5677	10-13/6	0.9010	45/64	0.703125
2-7/8	0.2396	6-7/8	0.5729	10-7/8	0.9063	28/52	0.71875
2-15 ₁₆	0.2448	6-15/6	0.5781	10-13/6	0.9115	47/64	0.734375
3-	0.2500	7-	0.5833	11-	0.9167	3/4	0.750
3-1/6	0.2552	7-1/6	0.5885	11-1/6	0.9219	49 ₆₄ 25 ₅₂ 51 ₆₄ 13 ₁₆	0.765625
3-1/8	0.2604	7-1/8	0.5938	11-1/8	0.9271		0.78125
3-8/6	0.2656	7-3/6	0.5990	11-3/6	0.9323		0.796875
3-1/4	0.2708	7-1/4	0.6042	11-1/4	0.9375		0.8125
3-5/6 3-3/8 3-1/6 3-1/2	0.2760 0.2813 0.2865 0.2917	$7 - \frac{5}{16}$ $7 - \frac{3}{8}$ $7 - \frac{7}{16}$ $7 - \frac{1}{2}$	0.6094 0.6146 0.6198 0.6250	$ \begin{array}{r} 11 - \frac{5}{16} \\ 11 - \frac{3}{8} \\ 11 - \frac{7}{16} \\ 11 - \frac{1}{2} \end{array} $	0.9427 0.9479 0.9531 0.9583	58 ₆₄ 27 ₅₂ 55 ₆₄ 7/8	0.828125 0.84375 0.859375 0.875
3-9/6 3-5/8 3-11/6 3-3/4	0.2969 0.3021 0.3073 0.3125	$\begin{array}{c} 7 - 9/6 \\ 7 - 5/8 \\ 7 - 11/6 \\ 7 - 3/4 \end{array}$	0.6302 0.6354 0.6406 0.6458	$ \begin{array}{r} 11 - 9/_{16} \\ 11 - 5/_{8} \\ 11 - 11/_{16} \\ 11 - 3/_{4} \end{array} $	0.9635 0.9688 0.9740 0.9792	57 ₆₄ 29 ₃₂ 59 ₆₄ 15 ₁₆	0.890625 0.90625 0.921875 0.9375
3-13/16 3-7/8 3-15/16 4-	0.3177 0.3229 0.3281 0.3333	$7 - \frac{13}{16}$ $7 - \frac{7}{8}$ $7 - \frac{15}{16}$ $8 - \frac{15}{16}$	0.6510 0.6563 0.6615 0.6667	$ \begin{array}{r} 1.1 - 13_{16} \\ 1.1 - 7_{8} \\ 1.1 - 15_{16} \\ 1.2 - 1 \end{array} $	0.9844 0.9896 0.9948 1.0000	61 ₆₄ 31 ₅₂ 63 ₆₄ 1"	0.953125 0.96875 0.984375 1.000

WHERE ADDITIONAL LUMBER INFORMATION MAY BE OBTAINED.

THIS publication is a part of the service to distributors and consumers of lumber sponsored by the National Lumber Manufacturers Association. It is suggested that those desiring additional information regarding the respective species of wood write the following regional associations:

American Walnut Manufacturers Association	Chicago, Ill.
American Walnut.	
Appalachian Hardwood Manufacturers, Inc. Appalachian Ash, Basswood, Beech, Birch, Butternut, Chestnut, Cherry, Elm, Hickory, M. Red Oak, White Oak, Walnut.	faple, Yellow Poplar,
Hardwood Dimension Manufacturers Association	ickory, Maple, Yellow
Mahogany Association, Inc.	Chicago, Ill.
	CI: III
Maple Flooring Manufacturers Association	Chicago, III.
Northeastern Lumber Manufacturers Association	New York, N. Y.
Northern White Pine, Norway Pine, Eastern Spruce, Balsam Fir, Northern Hardwoods.	
Northern Hemlock and Hardwood Manufacturers Association	Oshkosh, Wis.
Northern Pine Manufacturers Association	Minneapolis Minn
Northern White Pine, Norway Pine, Eastern Spruce, Tamarack.	Willineapons, Willin.
Red Cedar Shingle Bureau	Seattle, Wash.
Southern Cypress Manufacturers Association	Jacksonville, Fla.
Tidewater Red Cypress.	
Southern Hardwood Producers, Inc.	Memphis Tenn
Ash, Basswood, Beech, Cypress (yellow), Cottonwood, Elm, Gum (black), Gum (red and sap Maple (soft), Magnolia, Oak (white), Oak (red), Poplar, Pecan, Persimnon, Sycamore, T), Hackberry, Hickory,
Southern Pine Association	
Longleaf and Shortleaf Southern Pine.	
West Coast Lumbermen's Association	Seattle, Wash.
Douglas Fir, West Coast Hemlock, Sitka Spruce, Western Red Cedar, Port Orford Cedar.	
Western Pine Association	Portland Ore.
Western Fine Association. Ponderosa Pine, Idaho White Pine, Sugar Pine, Larch, Douglas Fir, White Fir, Engelman Incense Cedar.	
The Veneer Association	Chicago III.
The veneer Association	

NATIONAL LUMBER MANUFACTURERS ASSOCIATION

1337 Connecticut Ave., Washington, D. C.

FIELD OFFICES

Chicago

New York

New Orleans

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COOPERATING ORGANIZATIONS

National Hardwood Lumber Association	Chicago, Ill.
National-American Wholesale Lumber Association	New York, N. Y.
National Retail Lumber Dealers Association	Washington, D. C.
National Association of Commission Lumber Salesmen	Cleveland, O.
National Door Manufacturers Association	Chicago, Ill.
National Association of Hardwood Wholesalers	Chicago, Ill.
National Wholesale Lumber Distributing Yard Association	

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National Door Manufacturers Association Chicago, Ill
National Association of Hardwood Wholesalers Chicago, Ill
National Wholesale Lumber Distributing Yard Association Baltimore, Md

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